PCT/EP 03 / 04715

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PCT/EP03/4715 #2

Bescheinigung Certificate Attestation

Die angehefteten Unterlagen stimmen mit der ursprünglich eingereichten Fassung der auf dem nächsten Blatt bezeichneten europäischen Patentanmeldung überein.

The attached documents are exact copies of the European patent application described on the following page, as originally filed.

Les documents fixés à cette attestation sont conformes à la version initialement déposée de la demande de brevet européen spécifiée à la page suivante.

Patentanmeldung Nr. Patent application No. Demande de brevet n°

02010911.2

PRIORITY DOCUMENT
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Der Präsident des Europäischen Patentamts;
Im Auftrag

For the President of the European Patent Office

Le Président de l'Office européen des brevets
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R C van Dijk

DEN HAAG, DEN
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LA HAYE, LE

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Blatt 2 der Bescheinigung
Sheet 2 of the certificate
Page 2 de l'attestation

Anmeldung Nr.:
Application no.:
Demande n°: 02010911.2

Anmeldetag:
Date of filing:
Date de dépôt: 16/05/02

Anmelder:
Applicant(s):
Demandeur(s):
Bayer CropScience GmbH
65929 Frankfurt/Main
GERMANY

Bezeichnung der Erfindung:
Title of the invention:
Titre de l'invention:
Pesticidal pyridinecarboxamide derivatives

In Anspruch genommene Priorität(en) / Priority(ies) claimed / Priorité(s) revendiquée(s)

Staat: State: Pays:	Tag: Date: Date:	Aktenzeichen: File no. Numéro de dépôt:

Internationale Patentklassifikation:
International Patent classification:
Classification internationale des brevets:
C07D213/82, C07D417/12, C07D413/12, C07D419/12, C07D411/12, A01N43/40, A01N43/74, A01N43/82, A01N43/86

Am Anmeldetag benannte Vertragstaaten:
Contracting states designated at date of filing:
Etats contractants désignés lors du dépôt: AT/BE/CH/CY/DE/DK/ES/FI/FR/GB/GR/IE/IT/LI/LU/MC/NL/PT/SE/TR

Bemerkungen:
Remarks:
Remarques:

Tha applicant's name at the time of filling of the application was as follows: Aventis CropScience GmbH, Frankfurt, Deutschland.
The registration of the changes has taken effect on 09.07.02.
See for the original title of the application, page 1 of the description.

Description

Pesticidal Derivatives

The invention relates to 3-pyridylcarboxamide derivatives and their use for the control of pests, in particular arthropods such as insects and acarids, and helminths (including nematodes); to compositions containing them, and to processes and intermediates for their preparation.

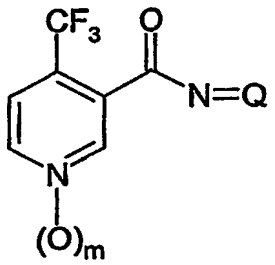
The control of insects, nematodes or helminths with 3-pyridylcarboxamide compounds has been described in many patents such as EP 580374, JP 10101648, JP 10182625, WO 200109104, WO 200114340, JP 6321903, JP 10195072 and JP 11180957.

However, the level of action and/or duration of action of these prior-art compounds is not entirely satisfactory in all fields of application, in particular against certain organisms or when low concentrations are applied.

Since modern pesticides must meet a wide range of demands, for example regarding level, duration and spectrum of action, use spectrum, toxicity, combination with other active substances, combination with formulation auxiliaries or synthesis, and since the occurrence of resistances is possible, the development of such substances can never be regarded as concluded, and there is constantly a high demand for novel compounds which are advantageous over the known compounds, at least as far as some aspects are concerned.

It is an object of the present invention to provide compounds which widen the spectrum of the pesticides in various aspects.

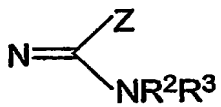
The present invention provides a compound which is a 3-pyridylcarboxamide derivative of formula (I):



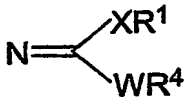
(I)

wherein:

N=Q is a formula (A) or (B):



(A)

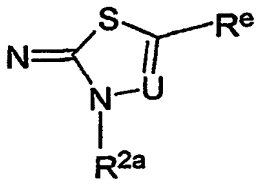


(B)

Z is YR^1 or NR^5R^6;

or when Z is YR^1, R^1 and R^3 may form together with the adjacent –Y-C-NR^2- atoms, a five or six membered saturated heterocyclic ring which optionally contains an additional N or O atom, and is unsubstituted or substituted by one or more R^7 groups or one of the ring carbon atoms may form a carbonyl or imino group, and which ring is optionally fused to a benzene ring optionally substituted by R^7;

or when Z is YR^1, R^1 and R^3 may form together with the adjacent -Y-C-NR^2- atoms, a group (A^2):



(A^2)

Y, X and W are each independently O or S;

or R^1 and R^4 may form together with the adjacent –X-C-W- group, a five or six membered unsaturated, partially saturated or saturated heterocyclic ring, unsubstituted or substituted by one or more R^7 groups or one of the ring carbon atoms may form a carbonyl group;

R^1 is (C_1-C_8)alkyl, (C_3-C_6)alkenyl, (C_3-C_6)alkynyl or (C_3-C_8)cycloalkyl, which last four mentioned groups are unsubstituted or substituted by one or more R^8 groups; or is

$(C_3$-$C_8)$cycloalkyl-$(C_1$-$C_6)$alkyl which cycloalkyl is unsubstituted or substituted by one or more R^8 groups; or is $-(CR^9R^{10})_pR^{11}$ or $-(CR^9R^{10})_p$heterocyclyl; or when Y is O is $(C_1$-$C_6)$alkylamino, $NH(C_3$-$C_8)$cycloalkyl or $NH(CH_2)_sR^{11}$;

R^{2a} is $(C_1$-$C_8)$alkyl, $(C_3$-$C_6)$alkenyl, $(C_3$-$C_6)$alkynyl, $(C_3$-$C_8)$cycloalkyl, $(C_1$-$C_6)$alkoxy, $(C_3$-$C_6)$alkenyloxy, $(C_3$-$C_6)$alkynyloxy, $(C_1$-$C_6)$alkylamino, di-$(C_1$-$C_6)$alkylamino, $NHCO(C_1$-$C_6)$alkyl, $NHSO_2(C_1$-$C_6)$alkyl, $CO(C_1$-$C_6)$alkyl or $SO_2(C_1$-$C_6)$alkyl which last thirteen mentioned groups are unsubstituted or substituted by one or more R^8 groups; or is $(C_3$-$C_8)$cycloalkyl-$(C_1$-$C_6)$alkyl which cycloalkyl is unsubstituted or substituted by one or more R^8 groups; or is $-(CR^9R^{10})_pR^{11}$, $-(CR^9R^{10})_p$heterocyclyl, OH, SO_2R^{11}, NH_2, $NHCOR^{11}$, NHR^{11}, $NH(C_3$-$C_8)$cycloalkyl, $NH(CH_2)_sR^{11}$, $O(CHR^{10})_rR^{11}$; $O(CH_2)_r$heterocyclyl or $N{=}C[(C_1$-$C_6)$alkyl$]_2$; or is $(C_3$-$C_6)$alkenyl substituted by R^{11};

R^2 and R^5 are each independently R^{2a} or H;

R^3 and R^6 are each independently H or R^1;

R^4 is $(C_1$-$C_6)$alkyl substituted by R^8; or is $(C_3$-$C_6)$alkenyl, $(C_3$-$C_6)$alkynyl or $(C_3$-$C_8)$cycloalkyl which last three mentioned groups are unsubstituted or substituted by one or more R^8 groups; or is $(C_3$-$C_8)$cycloalkyl-$(C_1$-$C_6)$alkyl unsubstituted or substituted by one or more R^8 groups; or is $-(CR^9R^{10})_pR^{11}$ or $-(CR^9R^{10})_p$heterocyclyl; or when W is O, R^4 is $(C_1$-$C_6)$alkylamino;

or R^2 and R^3 together with the adjacent N atom form a 3 to 8-membered unsaturated, partially saturated or saturated heterocyclic ring which optionally contains up to three additional N, O or S atoms and which ring is unsubstituted or substituted by one or more R^7 groups (preferred examples of such ring systems include pyrrolidin-1-yl, piperidin-1-yl, 4,5-dihydropyrazol-1-yl, morpholin-1-yl, thiomorpholin-1-yl or its S-oxide or S, S-dioxide);

R^7 is R^8, R^4, $(C_1$-$C_6)$alkyl or CH_2OH;

R^8 is halogen, $(C_1$-$C_6)$alkoxy, $(C_1$-$C_6)$haloalkoxy, $S(O)_nR^{12}$, CN, $CO_2(C_1$-$C_6)$alkyl, CO_2H, NO_2, OH, amino, $(C_1$-$C_6)$alkylamino, di-$(C_1$-$C_6)$alkylamino, carbamoyl, $(C_1$-$C_6)$-alkylcarbamoyl, di-$(C_1$-$C_6)$-alkylcarbamoyl, $CH[O(C_1$-$C_6)$alkyl$]_2$, $(C_3$-$C_6)$alkenyloxy, $(C_3$-$C_6)$alkynyloxy or $O(CH_2)_rR^{11}$;

R^9 and R^{10} are each independently H, $(C_1$-$C_6)$alkyl or $(C_1$-$C_6)$haloalkyl;

R^{11} is aryl unsubstituted or substituted by one or more groups selected from (C_1-C_6)alkyl, (C_1-C_6)haloalkyl, (C_2-C_6)alkenyl, (C_2-C_6)alkynyl, (C_3-C_8)cycloalkyl, -$(CH_2)_uR^{13}$, heterocyclyl, halogen, (C_1-C_6)alkoxy, (C_1-C_6)haloalkoxy, $S(O)_nR^{12}$, CN, CO_2(C_1-C_6)alkyl, NO_2, amino, (C_1-C_6)alkylamino and di-(C_1-C_6)alkylamino;

R^{12} is (C_1-C_6)alkyl or (C_1-C_6)haloalkyl;

R^{13} is phenyl unsubstituted or substituted by one or more groups selected from halogen, (C_1-C_6)alkyl and (C_1-C_6)haloalkyl;

R^e is H, (C_1-C_6)alkyl, (C_2-C_6)alkenyl, (C_2-C_6)alkynyl, (C_3-C_8)cycloalkyl, (C_3-C_8)cycloalkyl-(C_1-C_6)alkyl, halogen, (C_1-C_6)alkoxy, (C_1-C_6)haloalkoxy, $S(O)_nR^{12}$, (C_3-C_6)alkenyloxy, (C_3-C_6)alkynyloxy, -$(CH_2)_pR^{11}$, heterocyclyl, CN, CO_2(C_1-C_6)alkyl, NO_2, amino, (C_1-C_6)alkylamino, di-(C_1-C_6)alkylamino or $O(CH_2)_rR^{11}$ wherein r is 0 or 1;

U is N or CH,

m, s and u are each independently 0 or 1;

n is 0, 1 or 2;

p is 0, 1, 2 or 3;

r is 0 or an integer from 1 to 6; and each heterocyclyl in the above mentioned radicals is independently a mono or bicyclic heterocyclic radical having 3 to 7 ring atoms in each ring and 1 to 4 hetero atoms selected from N, O and S;

with the proviso that in (A) when Z is NR^5R^6 then up to three of R^2, R^3, R^5 and R^6 are not simultaneously H;

or a pesticidally acceptable salt thereof.

These compounds possess valuable pesticidal properties.

The invention also encompasses any stereoisomer, enantiomer or geometric isomer, and mixtures thereof.

By the term "pesticidally acceptable salts" is meant salts the cations or anions of which are known and accepted in the art for the formation of salts for pesticidal or horticultural use. Suitable salts with bases, e.g. formed by compounds of formula (I) containing a carboxy or OH group, include alkali metal (e.g. sodium and potassium), alkaline earth metal (e.g. calcium and magnesium), ammonium and amine (e.g.

diethanolamine, triethanolamine, octylamine, morpholine and dioctylmethylamine) salts. Suitable acid addition salts, e.g. formed by compounds of formula (I) containing an amino group, include salts with inorganic acids, for example hydrochlorides, sulphates, phosphates and nitrates and salts with organic acids for example acetic acid.

In the present patent specification, including the accompanying claims, the aforementioned substituents have the following meanings:
halogen atom means fluorine, chlorine, bromine or iodine;
alkyl groups and portions thereof (unless otherwise defined) may be straight- or branched-chain;
cycloalkyl groups preferably have from three to six carbon atoms in the ring and are optionally substituted by halogen or alkyl.
The haloalkyl and haloalkoxy groups bear one or more halogen atoms; preferred groups of this type include $-CF_3$ and $-OCF_3$.
The term "halo" before the name of a radical means that this radical is partially or completely halogenated, that is to say, substituted by F, Cl, Br, or I, in any combination, preferably by F or Cl.
The expression "$(C_1$-$C_6)$-alkyl" is to be understood as meaning an unbranched or branched hydrocarbon radical having 1, 2, 3, 4, 5 or 6 carbon atoms, such as, for example a methyl, ethyl, propyl, isopropyl, 1-butyl, 2-butyl, 2-methylpropyl or tert-butyl radical.

"$(C_1$-$C_6)$-Haloalkyl" is to be understood as meaning an alkyl group mentioned under the expression "$(C_1$-$C_6)$-alkyl" in which one or more hydrogen atoms are replaced by the same number of identical or different halogen atoms, preferably by chlorine or fluorine, such as the trifluoromethyl, the 1-fluoroethyl, the 2,2,2-trifluoroethyl, the chloromethyl, fluoromethyl, the difluoromethyl or the 1,1,2,2-tetrafluoroethyl group.

"$(C_1$-$C_6)$-Alkoxy" is to be understood as meaning an alkoxy group whose hydrocarbon radical has the meaning given under the expression "$(C_1$-$C_6)$-alkyl".

The terms "alkenyl" and "alkynyl" with a range of carbon atoms stated as prefix denote a straight-chain or branched hydrocarbon radical having a number of carbon atoms which corresponds to this stated range and which contains at least one multiple bond which can be located in any position of the respective unsaturated radical. "(C_2-C_6)-Alkenyl" accordingly denotes, for example, the vinyl, allyl, 2-methyl-2-propenyl, 2-butenyl, pentenyl, 2-methylpentenyl or the hexenyl group. "(C_2-C_6)-Alkynyl" denotes, for example, the ethynyl, propargyl, 2-methyl-2-propynyl; 2-butynyl; 2-pentynyl or the 2-hexynyl group.

"(C_3-C_8)-Cycloalkyl" denotes monocyclic alkyl radicals, such as the cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, cycloheptyl or cyclooctyl radical, and denotes bicyclic alkyl radicals, such as the norbornyl radical.

The expression "(C_3-C_8)-cycloalkyl-(C_1-C_6)-alkyl" is to be understood as meaning, for example the cyclopropylmethyl, cyclopentylmethyl, cyclohexylmethyl, cyclohexylethyl, cyclohexylbutyl, 1-methylcyclopropyl, 1-methylcyclopentyl, 1-methylcyclohexyl, 3-hexylcyclobutyl or the 4-tert-butylcyclohexyl radical.

"(C_1-C_6)-Alkylamino" denotes a nitrogen atom which is substituted by an alkyl radical of the above definition. "Di-(C_1-C_6)-alkylamino" denotes a nitrogen atom which is substituted by two alkyl radical of the above definition.

The expression "(C_1-C_6)-alkylcarbamoyl" denotes a carbamoyl group having one hydrocarbon radical which has the meaning given under the expression "(C_1-C_6)-alkyl"; and "di-(C_1-C_6)-alkylcarbamoyl" denotes a carbamoyl group having two hydrocarbon radicals which can be identical or different.

The expression "aryl" is to be understood as meaning a carbocyclic, i.e. constructed of carbon atoms, aromatic radical having preferably 6 to 14, in particular 6 to 12, carbon atoms, such as, for example, phenyl, naphthyl or biphenylyl, preferably phenyl.

The expression "heterocyclyl" preferably denotes a cyclic radical which can be completely saturated, partially unsaturated or completely unsaturated and which contains in the ring one or more identical or different atoms selected from the group consisting of nitrogen, sulfur and oxygen, where, however, two oxygen atoms may not be directly adjacent and at least one carbon atom has to be present in the ring, such as, for example, a thiophene, furan, pyrrole, thiazole, oxazole, imidazole, isothiazole, isoxazole, pyrazole, 1,3,4-oxadiazole, 1,3,4-thiadiazole, 1,3,4-triazole, 1,2,4-oxadiazole, 1,2,4-thiadiazole, 1,2,4-triazole, 1,2,3-triazole, 1,2,3,4-tetrazole, benzo[b]thiophene, benzo[b]furan, indole, benzo[c]thiophene, 1,3-benzodioxole, 1,3-benzodioxane, benzo[c]furan, isoindole, benzoxazole, benzothiazole, benzimidazole, benzisoxazole, benzisothiazole, benzopyrazole, benzothiadiazole, benzotriazole, dibenzofuran, dibenzothiophene, carbazole, pyridine, pyrazine, pyrimidine, pyridazine, 1,3,5-triazine, 1,2,4-triazine, 1,2,4,5-tetrazine, quinoline, isoquinoline, quinoxaline, quinazoline, cinnoline, 1,8-naphthyridine, 1,5-naphthyridine, 1,6-naphthyridine, 1,7-naphthyridine, phthalazine, pyridopyrimidine, purine, pteridine, 4H-quinolizine, piperidine, pyrrolidine, oxazoline, tetrahydrofuran, tetrahydropyran, isoxazolidine, thiazolidine, oxirane or oxetane radical.

Heterocyclyl preferably denotes a saturated, partially saturated or aromatic ring system having 3 to 7 ring atoms and 1 to 4 heteroatoms selected from the group consisting of O, S and N, where at least one carbon atom has to be present in the ring.

More preferably, heterocyclyl denotes a pyridine, pyrimidine, (1,2,4)-oxadiazole, (1,3,4)-oxadiazole, pyrrole, furan, thiophene, oxazole, thiazole, imidazole, pyrazole, isoxazole, 1,2,4-triazole, tetrazole, pyrazine, pyridazine, oxazoline, thiazoline, tetrahydrofuran, tetrahydropyran, morpholine, piperidine, piperazine, pyrroline, pyrrolidine, oxazolidine, thiazolidine, oxirane, oxetane, 1,3-benzodioxole or 1,3-benzodioxane radical.

Preferred substituents for the various aliphatic, aromatic and heterocyclic ring systems include halogen, nitro, cyano, (C_1-C_4)-alkyl, (C_3-C_6)-cycloalkyl, (C_1-C_4)-

alkoxy, (C_1-C_4)-alkylthio, (C_1-C_4)-alkylsulfinyl, (C_1-C_4)-alkylsulfonyl, phenyl, benzyl and phenoxy, where in the alkyl radicals and the radicals derived therefrom one or more – and in the case of fluorine up to the maximum number of – hydrogen atoms can be replaced by halogen, preferably chlorine or fluorine.

Particularly preferred substituents include halogen, nitro, cyano, (C_1-C_4)-alkyl, (C_1-C_4)-haloalkyl, (C_3-C_6)-cycloalkyl, (C_1-C_4)-alkoxy, (C_1-C_4)-haloalkoxy, (C_1-C_4)-alkylthio and (C_1-C_4)-haloalkylthio.

It is to be generally understood, unless otherwise stated, that the term "unsubstituted or substituted by one or more groups" or "unsubstituted or substituted by one or more groups selected from" means that such groups (or preferred groups) may be the same or different.

The term pests means arthropod pests (including insects and acarids), and helminths (including nematodes).

Preferably Z is YR^1;
or preferably when Z is YR^1, R^1 and R^3 may form together with the adjacent -Y-C-NR^2- atoms, a five or six membered saturated heterocyclic ring which optionally contains an additional N or O atom, and is unsubstituted or substituted by one or more R^7 groups or one of the ring carbon atoms may form a carbonyl or imino group, and which ring is optionally fused to a benzene ring optionally substituted by R^7;
preferably one of X and W is O and the other is S;
or preferably R^1 and R^4 may form together with the adjacent -X-C-W- group, a five or six membered unsaturated, partially saturated or saturated heterocyclic ring, unsubstituted or substituted by one or more R^7 groups or one of the ring carbon atoms may form a carbonyl group.
Preferably R^1 is (C_1-C_8)alkyl or (C_3-C_6)alkenyl, which groups are unsubstituted or substituted by one or more groups selected from (C_1-C_4)alkoxy, $S(O)_nR^{12}$ and OH; or is $-(CR^9R^{10})_pR^{11}$ (more preferably R^1 is (C_1-C_8)alkyl, (C_3-C_6)alkenyl or $-(CR^9R^{10})_pR^{11}$).

Preferably R^2 is H, $(C_3$-$C_6)$alkenyl, $(C_3$-$C_6)$alkynyl, $(C_1$-$C_6)$alkoxy, $(C_3$-$C_6)$alkenyloxy, $(C_3$-$C_6)$alkynyloxy, $-(CR^9R^{10})_pR^{11}$, $-(CR^9R^{10})_p$heterocyclyl, NHR^{11} or $O(CH_2)_rR^{11}$; or is $(C_1$-$C_8)$alkyl unsubstituted or substituted by a di-$(C_1$-$C_4)$alkylamino group; (more preferably R^2 is $(C_1$-$C_8)$alkyl, $(C_3$-$C_6)$alkenyl, $(C_1$-$C_6)$alkoxy, $-(CR^9R^{10})_pR^{11}$, $-(CR^9R^{10})_p$heterocyclyl or $O(CH_2)_rR^{11}$).

Preferably R^3 is $(C_1$-$C_8)$alkyl or $(C_3$-$C_6)$alkenyl, which groups are unsubstituted or substituted by an $(C_1$-$C_4)$alkoxy or OH group; or is H or $-(CR^9R^{10})_pR^{11}$ (more preferably R^3 is H, $(C_1$-$C_8)$alkyl, $(C_3$-$C_6)$alkenyl or $-(CH_2)_pR^{11}$).

Preferably R^4 is $(C_1$-$C_8)$alkyl substituted by $(C_1$-$C_4)$alkoxy or OH; or is $(C_3$-$C_6)$alkenyl, $(C_3$-$C_6)$alkynyl or $(C_3$-$C_8)$cycloalkyl which last three mentioned groups are unsubstituted or substituted by an $(C_1$-$C_4)$alkoxy or OH group; or is $(C_3$-$C_8)$cycloalkyl-$(C_1$-$C_6)$alkyl which cycloalkyl is unsubstituted or substituted by an $(C_1$-$C_4)$alkoxy or OH group; or is $-(CR^9R^{10})_pR^{11}$ or $-(CR^9R^{10})_p$heterocyclyl (more preferably R^4 is $(C_1$-$C_8)$alkyl, $(C_3$-$C_6)$alkenyl or $-(CH_2)_p$phenyl);

or preferably R^2 and R^3 together with the adjacent N atom form a 3 to 8-membered unsaturated, partially saturated or saturated heterocyclic ring which optionally contains up to three additional N, O or S atoms and which ring is unsubstituted or substituted by one or more R^7 groups (preferred examples of such ring systems include pyrrolidin-1-yl, piperidin-1-yl, morpholin-1-yl, thiomorpholin-1-yl or 4,5-dihydropyrazol-1-yl).

Preferably R^7 is $(C_1$-$C_4)$alkoxy, OH, R^4, $(C_1$-$C_4)$alkyl or CH_2OH.

Preferably R^8 is $(C_1$-$C_4)$alkoxy or OH.

Preferably R^9 and R^{10} which may be the same or different, are each independently selected from H, $(C_1$-$C_4)$alkyl and $(C_1$-$C_4)$haloalkyl.

Preferably R^{11} is phenyl unsubstituted or substituted by one or more groups selected from $(C_1$-$C_4)$alkyl, $(C_1$-$C_4)$haloalkyl, $(C_2$-$C_4)$alkenyl, $(C_2$-$C_4)$alkynyl, $(C_3$-$C_6)$cycloalkyl, $-(CH_2)_uR^{13}$, heterocyclyl, halogen, $(C_1$-$C_4)$alkoxy, $(C_1$-$C_4)$haloalkoxy, $S(O)_nR^{12}$, CN, $CO_2(C_1$-$C_4)$alkyl, NO_2, amino, $(C_1$-$C_4)$alkylamino and di-$(C_1$-$C_4)$alkylamino; (more preferably R^{11} is phenyl unsubstituted or substituted by one or more groups selected from $(C_1$-$C_4)$alkyl, halogen, $(C_1$-$C_4)$alkoxy, NO_2 and amino).

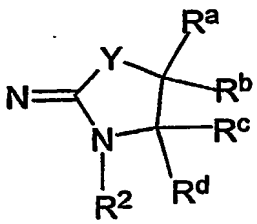
Preferably R^{12} is $(C_1$-$C_4)$alkyl or $(C_1$-$C_4)$haloalkyl.

Preferably m is 0.

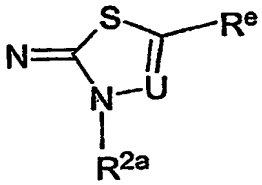
Preferably p, r, s and u are each independently 0 or 1.

Preferably each heterocyclyl in the above mentioned radicals is independently a heterocyclic radical having 3 to 7 ring atoms and 1 to 4 hetero atoms selected from N, O and S;

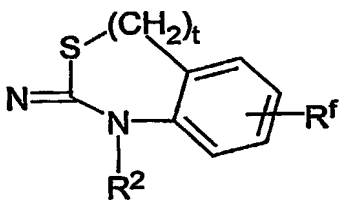
A preferred embodiment of the invention comprises compounds of formula (I) wherein N=Q is a formula (A) in which Z is YR^1 and R^1 and R^3 form together with the adjacent –Y-C-NR^2- atoms, a heterocyclic ring which is of formula (A^1), (A^2), (A^3) or (A^4):



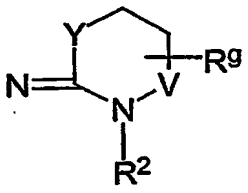
(A^1)



(A^2)



(A^3)



(A^4)

wherein:

Y is O or S;

U is N or CH;

V is O or CH_2;

t is 0 or 1;

R^a, R^b, R^c and R^d are each independently selected from H, (C_1-C_6)alkyl, (C_1-C_6)haloalkyl, (C_2-C_6)alkenyl, (C_2-C_6)alkynyl, (C_3-C_8)cycloalkyl, halogen, (C_1-C_6)alkoxy, (C_1-C_6)haloalkoxy, $S(O)_nR^{12}$, (C_2-C_6)alkenyloxy, (C_2-C_6)alkynyloxy, R^{11}, heterocyclyl and $O(CH_2)_rR^{11}$ wherein r is 0 or 1;

or R^a and R^b, or R^c and R^d may form a carbonyl or imino group (more preferably R^a, R^b, R^c and R^d are each independently selected from H, (C_1-C_6)alkyl, (C_1-C_6)alkoxy and R^{11}; or R^a and R^b, or R^c and R^d may form a carbonyl or imino group; most preferably R^a, R^b, R^c and R^d are each H or R^c and R^d form a carbonyl group, or R^a and R^b form an imino group);

R^e and R^f are each independently selected from H, (C_1-C_6)alkyl, (C_2-C_6)alkenyl, (C_2-C_6)alkynyl, (C_3-C_8)cycloalkyl, (C_3-C_8)cycloalkyl-(C_1-C_6)alkyl, halogen, (C_1-C_6)alkoxy, (C_1-C_6)haloalkoxy, $S(O)_nR^{12}$, (C_2-C_6)alkenyloxy, (C_2-C_6)alkynyloxy, -$(CH_2)_pR^{11}$,

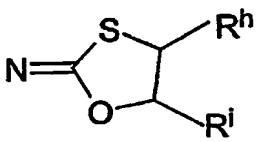
heterocyclyl, CN, $CO_2(C_1$-$C_6)$alkyl, NO_2, amino, $(C_1$-$C_6)$alkylamino, di-$(C_1$-$C_6)$alkylamino and $O(CH_2)_rR^{11}$ wherein r is 0 or 1 (more preferably R^e and R^f are each independently selected from H, $(C_1$-$C_6)$alkyl, $(C_1$-$C_6)$haloalkyl, halogen and R^{11}; most preferably R^e and R^f are each H);

R^g is H, $(C_1$-$C_6)$alkyl, halogen, $(C_1$-$C_6)$alkoxy, $CO_2(C_1$-$C_6)$alkyl or R^{11} (more preferably R^g is H);

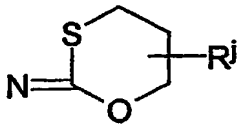
R^{2a} is $(C_1$-$C_6)$alkyl unsubstituted or substituted by one or more groups selected from halogen, $(C_1$-$C_6)$alkoxy, $CH[O(C_1$-$C_6)alkyl]_2$, CN, $CO_2(C_1$-$C_6)$alkyl and CO_2H; or is $(C_3$-$C_6)$alkenyl unsubstituted or substituted by one or more halogen or phenyl groups; or is $(C_3$-$C_6)$alkynyl, $(C_3$-$C_8)$cycloalkyl, $(C_3$-$C_8)$cycloalkyl-$(C_1$-$C_6)$alkyl, $(C_1$-$C_6)$alkoxy, $(C_3$-$C_6)$alkenyloxy or $(C_3$-$C_6)$alkynyloxy; or is $-(CHR^{10})_pR^{11}$ wherein R^{10} is H or $(C_1$-$C_8)$alkyl, p is 0 or 1 and R^{11} is phenyl unsubstituted or substituted by one or more groups selected from halogen, $(C_1$-$C_6)$haloalkyl, $(C_1$-$C_6)$alkoxy, $(C_1$-$C_6)$haloalkoxy and phenoxy unsubstituted or substituted by one or more groups selected from halogen and $(C_1$-$C_6)$haloalkyl; or is $O(CHR^{10})_rR^{11}$ wherein R^{10} is H or $(C_1$-$C_6)$alkyl, r is 1 and R^{11} is phenyl unsubstituted or substituted by one or more groups selected from $(C_1$-$C_6)$haloalkyl, $(C_1$-$C_6)$alkoxy and NO_2; (more preferably R^{2a} is $(C_1$-$C_6)$alkyl, $(C_2$-$C_6)$alkenyl or CH_2phenyl; or phenyl unsubstituted or substituted by one or more halogen or $(C_1$-$C_6)$haloalkyl groups; or is $(C_2$-$C_6)$alkenyl unsubstituted or substituted by a phenyl group; or is CH_2CO_2H or $CH_2CO_2(C_1$-$C_6)$alkyl); and

R^2 is R^{2a} or H (more preferably R^2 is H, $(C_1$-$C_6)$alkyl, $(C_3$-$C_6)$alkenyl, $(C_1$-$C_6)$alkoxy or CH_2phenyl; or is phenyl unsubstituted or substituted by one or more halogen or $(C_1$-$C_6)$haloalkyl groups; or is $(C_3$-$C_6)$alkenyl unsubstituted or substituted by a phenyl group; or is CH_2CO_2H or $CH_2CO_2(C_1$-$C_6)$alkyl); most preferably R^2 is H, $(C_1$-$C_6)$alkyl, $(C_3$-$C_6)$alkenyl, $(C_1$-$C_6)$alkoxy, CH_2phenyl or phenyl).

A further preferred embodiment of the invention comprises compounds of formula (I) wherein N=Q is a formula (B) in which R^1 and R^4 form together with the adjacent -X-C-W- group, a heterocyclic ring of formula (B^1) or (B^2):



(B1)

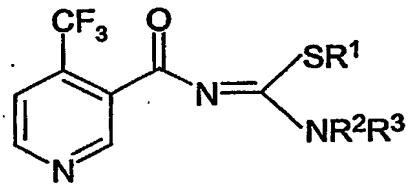


(B2)

wherein:

R^h, R^i and R^j are each independently H, $(C_1\text{-}C_6)$alkyl, halogen, $(C_1\text{-}C_6)$alkoxy, $CO_2(C_1\text{-}C_6)$alkyl or R^{11} (more preferably R^h, R^i and R^j are each independently H or $(C_1\text{-}C_6)$alkyl).

A more preferred class of compounds of formula (I) are of formula (Ia):



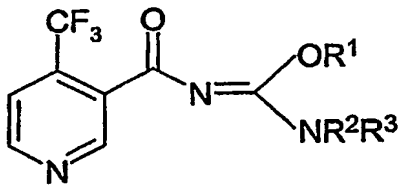
(Ia)

wherein R^1 is $(C_3\text{-}C_6)$alkenyl, $(C_3\text{-}C_6)$haloalkenyl, $(C_3\text{-}C_6)$alkynyl or $(C_3\text{-}C_8)$cycloalkyl-$(C_1\text{-}C_6)$alkyl; or is $(C_1\text{-}C_6)$alkyl unsubstituted or substituted by one or more $CO_2(C_1\text{-}C_6)$alkyl or $CH[O(C_1\text{-}C_6)alkyl]_2$ groups; or is $-(CHR^{10})R^{11}$ wherein R^{10} is H or $(C_1\text{-}C_6)$alkyl, and R^{11} is phenyl unsubstituted or substituted by one or more halogen or $(C_1\text{-}C_6)$haloalkyl groups;

R^2 is $(C_1\text{-}C_6)$alkyl, phenyl or $N{=}C[(C_1\text{-}C_6)alkyl]_2$; or is CH_2R^{11} where R^{11} is phenyl unsubstituted or substituted by one or more halogen groups; and

R^3 is H, $(C_1\text{-}C_6)$alkyl or phenyl; or R^2 and R^3 together with the adjacent N atom form a pyrrolidin-1-yl, piperidin-1-yl or morpholin-1-yl ring.

A more preferred class of compounds of formula (I) are of formula (Ib):



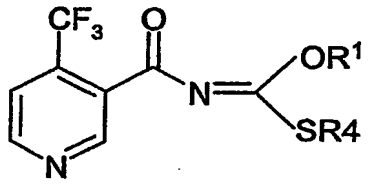
(Ib)

wherein R^1 is $(C_1\text{-}C_6)$alkyl unsubstituted or substituted by a $S(O)_nR^{12}$ group;

R^2 is $(C_3$-$C_6)$alkenyl, $(C_3$-$C_6)$alkynyl, $(C_3$-$C_8)$cycloalkyl, $(C_3$-$C_8)$cycloalkyl-$(C_1$-$C_6)$alkyl, $(C_1$-$C_6)$alkoxy or $(C_3$-$C_6)$alkenyloxy; or is $(C_1$-$C_8)$alkyl unsubstituted or substituted by one or more groups selected from halogen, $(C_1$-$C_6)$alkoxy, di-$(C_1$-$C_6)$alkylamino, CN, $CH[O(C_1$-$C_6)alkyl]_2$, phenyl and phenoxy; or is NHR^{11} wherein R^{11} is phenyl unsubstituted or substituted by one or more $(C_1$-$C_6)$haloalkyl groups; or is $-(CHR^{10})R^{11}$ wherein R^{10} is H or $(C_1$-$C_6)$alkyl, and R^{11} is phenyl unsubstituted or substituted by one or more halogen, $(C_1$-$C_6)$alkyl or $(C_1$-$C_6)$haloalkyl groups; or is $-CH_2$heterocyclyl wherein heterocyclyl is thienyl, pyridyl, furyl or 1,3-benzodioxolanyl; or is OCH_2heterocyclyl wherein heterocyclyl is benzo-1,3-dioxanyl unsubstituted or substituted by one or more halogen groups; and

R^3 is H or $(C_1$-$C_6)$alkyl.

A more preferred class of compounds of formula (I) are of formula (Ic):



(Ic)

wherein R^1 is $(C_3$-$C_6)$alkenyl or $(C_3$-$C_6)$alkynyl; or is $-(CHR^{10})R^{11}$ wherein R^{10} is $(C_1$-$C_6)$alkyl, and R^{11} is phenyl unsubstituted or substituted by one or more $(C_1$-$C_6)$haloalkyl groups; and

R^4 is $(C_1$-$C_6)$alkylamino; or is $(C_1$-$C_6)$alkyl unsubstituted or substituted by one or two $(C_1$-$C_6)$alkoxy or $S(O)_nR^{12}$ groups.

A more preferred class of compounds of formula (I) are those in which N=Q is a formula (A^1) above, wherein:

R^a and R^b are each H or $(C_1$-$C_6)$alkyl, or R^a and R^b form an imino group;

R^c is H, $(C_1$-$C_6)$alkyl, $(C_1$-$C_6)$alkoxy or phenyl;

R^d is H or $(C_1$-$C_6)$alkyl; or R^a and R^b or R^c and R^d may form a carbonyl group;

Y is O or S; and

R^2 is H, $(C_1$-$C_6)$alkyl or CH_2phenyl; or phenyl unsubstituted or substituted by one or more halogen groups; or $(C_3$-$C_6)$alkenyl substituted by phenyl.

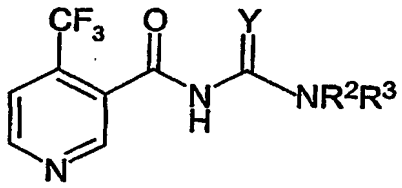
A further more preferred class of compounds of formula (I) are those in which N=Q is a formula (A^2) above, wherein:
R^e is H, (C_1-C_6)alkyl, (C_1-C_6)haloalkyl or phenyl;
U is N or CH; and
R^{2a} is (C_1-C_6)alkyl, CH_2CO_2H, CH_2CO_2(C_1-C_6)alkyl or CH_2phenyl; or is phenyl unsubstituted or substituted by one or more (C_1-C_6)haloalkyl groups; or is (C_3-C_6)alkenyl unsubstituted or substituted by a phenyl group.

A further more preferred class of compounds of formula (I) are those in which N=Q is a formula (A^3) above, wherein:
R^f is H or halogen;
t is 0 or 1; and
R^2 is H, (C_3-C_6)alkenyl or CH_2phenyl.

A further more preferred class of compounds of formula (I) are those in which N=Q is a formula (A^4) above, wherein:
R^9 is H;
Y is O or S;
V is O or CH_2; and
R^2 is H.

The compounds of general formula (I) can be prepared by the application or adaptation of known methods (i.e. methods heretofore used or described in the chemical literature.
In the following description of processes when symbols appearing in formulae are not specifically defined, it is understood that they are "as defined above" in accordance with the first definition of each symbol in the specification.

According to a feature of the invention compounds of formula (I) wherein N=Q is a formula (A) in which Z is YR^1, m is zero, and R^1, R^2 and R^3 are as defined above, may be prepared by the reaction of a compound of formula (II):



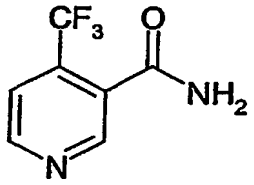
(II)

wherein Y, R^2 and R^3 are as defined above, with a compound of formula (III):

$$R^1L \qquad (III)$$

wherein R^1 is as defined above and L is a leaving group generally halogen and preferably chlorine or bromine. The reaction is generally performed in the presence of an organic base such as a tertiary amine for example triethylamine, or pyridine, or an inorganic base such as an alkali metal carbonate, for example potassium carbonate, or an alkali metal alkoxide such as sodium ethoxide, or sodium hydride, in a solvent such as dioxan, tetrahydrofuran or N,N-dimethylformamide, at a temperature of from 0° to 100°C (preferably 0° to 50°C).

According to a further feature of the invention compounds of formula (I) wherein N=Q is a formula (A) in which Z is YR^1, m is zero, R^3 is H, and R^1 and R^2 are as defined above, may be prepared in a 1-pot process by the reaction of a compound of formula (IV):



(IV)

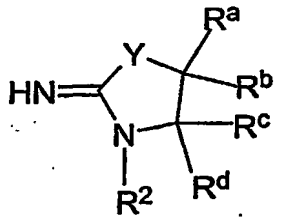
with a strong base such as sodium hydride, and an isothiocyanate or isocyanate compound of formula (V):

$$R^2\text{-}N{=}C{=}Y \qquad (V)$$

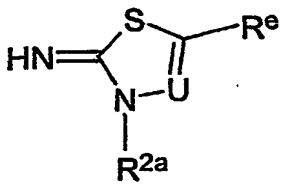
wherein R^2 is as defined above, in an inert solvent such as N,N-dimethylformamide, at a temperature of from 0° to 60°C, to give the corresponding acylthiourea or acylurea intermediate of formula (II) above wherein R^3 is H, which is generally not isolated, and is reacted with a compound of formula (III) as described above. The

reaction is generally performed in an inert solvent such as N,N-dimethylformamide at a temperature of from 0° to 60°C.

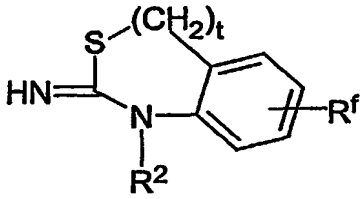
According to a further feature of the invention compounds of formula (I) wherein N=Q is a formula (A) which is a heterocyclic ring of formula (A^1), (A^2), (A^3) or (A^4), wherein the various symbols are as defined above, may be prepared by the acylation of the corresponding compound of formula (A^{1a}), (A^{2a}), (A^{3a}) or (A^{4a}):



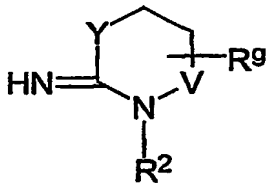
(A^{1a})



(A^{2a})

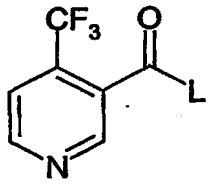


(A^{3a})



(A^{4a})

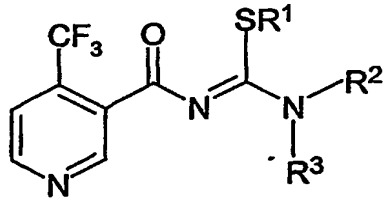
wherein the various symbols are as defined above, with a compound of formula (VI):



(VI)

wherein L is a leaving group, generally halogen and preferably chlorine. The reaction is generally performed in a solvent such as dichloromethane, at a temperature of from 0° to 100°C (preferably 0° to 50°C).

According to a further feature of the invention compounds of formula (I) wherein N=Q is a formula (A) in which Z is NR^5R^6, m is zero, and R^2, R^3, R^5 and R^6 are as defined above, may be prepared by the reaction of a compound of formula (VII):



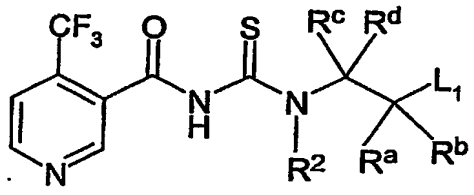
(VII)

wherein R^1, R^2 and R^3 are as defined above, with a compound of formula (VIII):

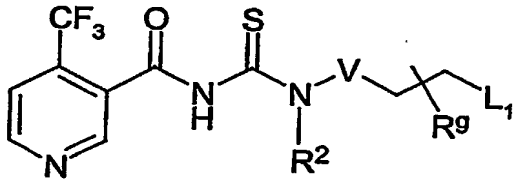
HNR^5R^6 (VIII)

wherein R^5 and R^6 are as defined above. The reaction is generally performed in the presence of an organic base such as a tertiary amine for example triethylamine, or pyridine, or an inorganic base such as an alkali metal carbonate, for example potassium carbonate, or an alkali metal alkoxide such as sodium ethoxide, or sodium hydride, in a solvent such as dioxan, tetrahydrofuran or N,N-dimethylformamide, at a temperature of from 0° to 100°C (preferably 0° to 50°C).

According to a further feature of the invention compounds of formula (I) wherein N=Q is a formula (A) which is a heterocyclic ring of formula (A^1) or (A^4), m is zero, Y is S and the other symbols are as defined above, may be prepared by the cyclisation reaction of a compound of formula (IX) or (X) respectively:



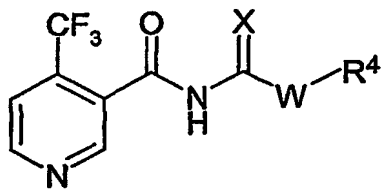
(IX)



(X)

wherein the various symbols are as defined above and L_1 is a leaving group, generally halogen and preferably chlorine or bromine. The reaction is generally performed in the presence of an organic base such as a tertiary amine for example triethylamine, or pyridine, or an inorganic base such as an alkali metal carbonate, for example potassium carbonate, or an alkali metal alkoxide such as sodium ethoxide, or sodium hydride, in a solvent such as dioxan, tetrahydrofuran or N,N-dimethylformamide, at a temperature of from 0° to 100°C (preferably 0° to 50°C).

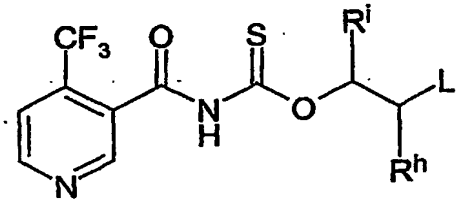
According to a further feature of the invention compounds of formula (I) wherein m is zero and N=Q is a formula (B) in which R^1 and R^4 are as defined above, may be prepared by the reaction of a compound of formula (XI):



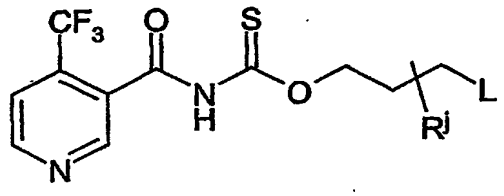
(XI)

wherein X, W and R^4 are as defined above, with a compound of formula (III) as defined above. The reaction is generally performed in the presence of an organic base such as a tertiary amine for example triethylamine, or pyridine, or an inorganic base such as an alkali metal carbonate, for example potassium carbonate, or an alkali metal alkoxide such as sodium ethoxide, or sodium hydride, in a solvent such as dioxan, tetrahydrofuran or N,N-dimethylformamide, at a temperature of from 0° to 100°C (preferably 0° to 50°C).

According to a further feature of the invention compounds of formula (I) wherein m is zero and N=Q is a formula (B) which is a heterocyclic ring of formula (B^1) or (B^2), wherein the various symbols are as defined above, may be prepared by the cyclisation reaction of the corresponding compound of formula (XII) or (XIII):



(XII)



(XIII)

wherein L is a leaving group generally halogen and preferably chlorine or bromine, and the other symbols are as defined above. The reaction may be conducted according to the conditions used for the preparation of compounds of formula (I) wherein m is zero and N=Q is a formula (B) in which R^1 and R^4 are as defined above, from a compound of formula (XI) and a compound of formula (III).

According to a further feature of the invention compounds of formula (I) wherein Q is as defined above, and m is 1 may be prepared by oxidising a corresponding compound in which m is 0. The oxidation is generally performed using hydrogen peroxide in a solvent such as acetic acid, or a peracid such as 3-chloroperbenzoic

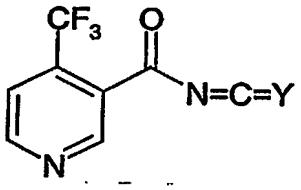
acid in a solvent such as dichloromethane or 1,2-dichloroethane, at a temperature of from 0°C to the reflux temperature of the solvent.

Intermediates of formula (II) wherein Y is O, may be prepared by the reaction of a compound of formula (IV) above, with oxalyl chloride, in an inert solvent such as dichloroethane at a temperature of from 0° to 60°C, to give the corresponding acylisocyanate intermediate which is generally not isolated, and which is directly reacted with an amine of formula (XIV):

$$HNR^2R^3 \qquad (XIV)$$

wherein R^2 and R^3 are as defined above. The reaction is generally performed in an inert solvent such as dichloroethane or tetrahydrofuran at a temperature of from 0° to 60°C.

Intermediates of formula (II), (IX) and (X) wherein Y is O or S may be prepared by the reaction of a compound of formula (XV):



(XV)

wherein Y is O or S, with a corresponding compound of formula (XIV). The reaction is generally performed in an inert solvent such as dichloroethane or tetrahydrofuran at a temperature of from 0° to 60°C.

Intermediates of formula (VI) wherein L is chlorine, may be prepared according to known procedures, for example by the reaction of the corresponding carboxylic acid wherein L is replaced by OH, with a suitable halogenating agent, preferably oxalyl chloride, in a solvent such as dichloroethane, optionally in the presence of N;N-dimethylformamide, at a temperature of from 0° to 60°C.

Intermediate of formula (XV) wherein Y is S, may be prepared according to known procedures, for example by the reaction of a compound of formula (VI) as defined

above, with an alkali metal thiocyanate or ammonium thiocyanate or tetraalkylammonium thiocyanate for example tetrabutylammonium thiocyanate, in the presence of a base such as an alkali metal carbonate for example potassium carbonate, at a temperature of from 0° to 60°C.

Intermediate of formula (XV) wherein Y is O, may be prepared according to known procedures, for example by the reaction of a compound of formula (VI) as defined above, with an alkali metal cyanate or ammonium cyanate or tetraalkylammonium cyanate for example tetrabutylammonium cyanate, in the presence of a base such as an alkali metal carbonate for example potassium carbonate, at a temperature of from 0° to 60°C.

Intermediates of formula (XI), (XII) and (XIII) wherein Y is O or S may be prepared by the reaction of a compound of formula (XV) as defined above, with a corresponding compound of formula (XVI):

$$HWR^4 \qquad (XVI)$$

wherein W and R^4 are as defined above. The reaction is generally performed in an inert solvent such as dichloroethane or tetrahydrofuran at a temperature of from 0° to 60°C.

Collections of compounds of the formula (I) which can be synthesized by the above mentioned process may also be prepared in a parallel manner, and this may be effected manually or in a semiautomated or fully automated manner. In this case, it is possible, for example, to automate the procedure of the reaction, work-up or purification of the products or of the intermediates. In total, this is to be understood as meaning a procedure as is described, for example, by S.H. DeWitt in "Annual Reports in Combinatorial Chemistry and Molecular Diversity: Automated Synthesis", Volume 1, Verlag Escom 1997, pages 69 to 77.

A series of commercially available apparatuses as are offered by, for example, Stem Corporation, Woodrolfe Road, Tollesbury, Essex, CM9 8SE, England or H+P Labortechnik GmbH, Bruckmannring 28, 85764 Oberschleißheim, Germany or

Radleys, Shirehill, Saffron Walden, Essex, England, may be used for the parallel procedure of the reaction and work-up. For the parallel purification of compounds of the formula (I), or of intermediates obtained during the preparation, use may be made, inter alia, of chromatography apparatuses, for example those by ISCO, Inc., 4700 Superior Street, Lincoln, NE 68504, USA.

The apparatuses mentioned lead to a modular procedure in which the individual process steps are automated, but manual operations must be performed between the process steps. This can be prevented by employing semi-integrated or fully integrated automation systems where the automation modules in question are operated by, for example, robots. Such automation systems can be obtained, for example, from Zymark Corporation, Zymark Center, Hopkinton, MA 01748, USA.

In addition to what has been described here, compounds of the formula (I) may be prepared in part or fully by solid-phase-supported methods. For this purpose, individual intermediate steps or all intermediate steps of the synthesis or of a synthesis adapted to suit the procedure in question are bound to a synthetic resin. Solid-phase-supported synthesis methods are described extensively in the specialist literature, for example Barry A. Bunin in "The Combinatorial Index", Academic Press, 1998.

The use of solid-phase-supported synthesis methods permits a series of protocols which are known from the literature and which, in turn, can be performed manually or in an automated manner. For example, the "tea-bag method" (Houghten, US 4,631,211; Houghten et al., Proc. Natl. Acad. Sci, 1985, 82, 5131-5135), in which products by IRORI, 11149 North Torrey Pines Road, La Jolla, CA 92037, USA, are employed, may be semiautomated. The automation of solid-phase-supported parallel syntheses is performed successfully, for example, by apparatuses by Argonaut Technologies, Inc., 887 Industrial Road, San Carlos, CA 94070, USA or MultiSynTech GmbH, Wullener Feld 4, 58454 Witten, Germany.

The preparation of the processes described herein yields compounds of the formula (I) in the form of substance collections which are termed libraries. The present

invention also relates to libraries which comprise at least two compounds of the formula (I).

Compounds of formula (III), (IV), (V), (VI), (VIII), (XVI), (A^{1a}), (A^{2a}), (A^{3a}) and (A^{4a}) are known or may be prepared by known methods.

The following non-limiting Examples illustrate the preparation of the compounds of formula (I).

Chemical Examples

NMR spectra were run in deuterochloroform unless stated otherwise.

In the Examples which follow, quantities (also percentages) are weight-based, unless stated otherwise.

Example 1

Sodium hydride (0.09g, 60% dispersion in mineral oil) was added to a solution of 4-trifluoromethyl-3-pyridinecarboxamide (0.40g) in N,N-dimethylformamide at 20°C and stirred for an hour. Benzyl isothiocyanate (0.31 ml) was added to the mixture and stirred at 20°C for 2 hours, then allyl bromide (0.30 ml) added with stirring at 20°C for 5 hours. Ethyl acetate and water were added and the organic phase dried (magnesium sulfate), evaporated and purified by column chromatography on silica gel eluting with n-hexane/ethyl acetate (3:1) to give 1-benzyl-S-(2-propenyl)-3-(4-trifluoromethyl-3-pyridylcarbonyl)isothiourea (0.55g, Compound A-724).

Example 2

Sodium hydride (0.03g, 60% dispersion in mineral oil) was added to a solution of 1-methyl-1-phenyl-3-(4-trifluoromethyl-3-pyridylcarbonyl)thiourea (0.2g) in tetrahydrofuran, and stirred at 20°C for 1 hour. Allyl bromide (0.31 ml) was added and stirred at 20°C for 2 hours, then a further amount of allyl bromide (0.09 ml) added and stirred for 2 hours. Ethyl acetate and water were added, the organic phase dried (magnesium sulfate), evaporated and the residue purified by column chromatography on silica gel, eluting with n-hexane/ethyl acetate (3:1) to give 1-

methyl-1-phenyl-S-(2-propenyl)-3-(4-trifluoromethyl-3-pyridylcarbonyl)isothiourea (0.17g, Compound A-1325).

Example 3

Sodium hydride (0.09g, 60% dispersion in mineral oil) was added to a solution of 4-trifluoromethyl-3-pyridinecarboxamide (0.40g) in N,N-dimethylformamide at 20°C, and stirred for an hour. Benzyl isothiocyanate (0.31 ml) was added to the mixture and stirred at 20°C for 2 hours, then methyl bromoacetate (0.30ml) added and stirred at 20°C for 5 hours. Ethyl acetate and water were added, the organic phase dried (magnesium sulfate), evaporated and the residue purified by silica gel column chromatography eluting with n-hexane/ethyl acetate (3:1) to give 3-benzyl-2-(4-trifluoromethyl-3-pyridylcarbonyl)imino-4-thiazolidone (0.50g, Compound D-143):

Example 4

Sodium hydride (0.09g, 60% dispersion in mineral oil) was added portionwise to a solution of 4-trifluoromethyl-3-pyridinecarboxamide (0.40g) in N,N-dimethylformamide at 20°C, and stirred for 1 hour. Benzyl isothiocyanate (0.31 ml) was added and stirred at 20°C for 1 hour, then 1,2-dibromoethane (0.30ml) added and stirred at 20°C for 1 hour. Sodium hydride (0.09g, 60% dispersion in mineral oil) was added in portions to the solution then stirred for 5 hours. Ethyl acetate and water were added, the organic phase dried (magnesium sulfate), evaporated and the residue purified by silica gel column chromatography eluting with n-hexane/ethyl acetate (3:1) to give 3-benzyl-2-(4-trifluoromethyl-3-pyridylcarbonyl)iminothiazolidine (0.50g, Compound D-40).

Example 5

Methanesulfonyl chloride (0.14ml) was added to an ice-cooled solution of 1-(2-hydroxyethyl)-1-phenyl-3-(4-trifluoromethyl-3-pyridylcarbonyl)thiourea (0.60g) and triethylamine (0.42ml) in dichloromethane, and stirred for 3 hours at 20°C. The mixture was washed (water), dried (magnesium sulfate), evaporated and the residue recrystallized (ethanol) to give 3-phenyl-2-(4-trifluoromethyl-3-pyridylcarbonyl)iminothiazolidine (0.26g, Compound D-60).

Example 6

Oxalyl chloride (0.6ml) was added to a suspension of 4-trifluoromethylnicotinic acid (1g) and a catalytic amount of N,N-dimethylformamide in dichloromethane, and stirred at 20°C for 1 hour. 4-Benzyl-5-imino-1,3,4-thiadiazoline hydrobromide (1.44g) was added under ice cooling, and was stirred at 20°C for 1 hour. The mixture was then washed (water), dried (magnesium sulfate), evaporated and the residue recrystallized (ethanol) to give 4-benzyl-5-(4-trifluoromethyl-3-pyridylcarbonyl)imino-1,3,4-thiadiazoline (0.3g, Compound E-39).

Example 7

Methanesulfonyl chloride (0.12ml) was added to an ice-cooled solution of 1-(2-hydroxymethylphenyl)-3-(4-trifluoromethyl-3-pyridylcarbonyl)thiourea (0.50g) and triethylamine (0.24ml) in dichloromethane, and stirred for 3 hours at 20°C. The reaction mixture was washed (water), dried (magnesium sulfate), evaporated and the residue recrystallized (ethanol) to give 2-(4-trifluoromethyl-3-pyridylcarbonyl)imino-4,5-benzo-1,3-thiazine (0.1g, Compound G-1).

The following Reference Example illustrates the preparation of intermediates used in the synthesis of the above Examples.

Reference Example 1

Oxalyl chloride (3.2 ml, 2M) was added to a suspension 4-trifluoromethylnicotinic acid (1g) and a catalytic amount of N, N-dimethylformamide in dichloromethane, and stirred at 20°C for 1 hour. The mixture was evaporated, the residue dissolved in toluene and tetrabutylammonium thiocyanate (1g) and potassium carbonate (0.5g) added, then stirred at 20°C for 30 minutes to give 4-trifluoromethyl-3-pyridylcarbonyl isothiocyanate. 2-Anilinoethanol (1.86g) was then added, and the mixture stirred at 20°C for 1 hour. Ethyl acetate was added and the mixture washed with water, hydrochloric acid 1(M), saturated sodium bicarbonate and brine, dried (magnesium sulfate), evaporated and recrystallised from ethanol to give 1-(2'-hydroxyethyl)-1-phenyl-3-(4-trifluoromethyl-3-pyridylcarbonyl)thiourea (0.9g); NMR 3.95(2H, t), 4.38(2H, m), 7.3-7.6(6H, m), 8.50(1H, brs), 8.80(1H, d).

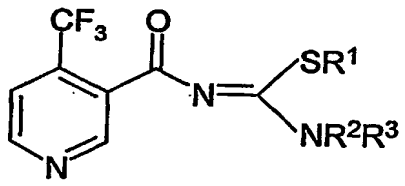
By proceeding in a similar manner the following intermediates were also prepared: 1-methyl-1-phenyl-3-(4-trifluoromethyl-3-pyridylcarbonyl)thiourea, NMR 3.69(1H, s), 7.3-7.6(6H, m), 8.33(1H, brs), 8.51(1H, s), 8.79(1h, d); and 1-(2-hydroxymethylphenyl)-3-(4-trifluoromethyl-3-pyridylcarbonyl)thiourea, NMR 4.71(2H, s), 7.2-7.4(2H, m), 7.5-7.6(1H, m), 7.8-7.9(2H, m), 9.01(1H, d), 9.11(1H, s), 11.01(1H, brs), 12.13(1H, brs).

The following preferred compounds shown in Tables 1 to 9 also form part of the present invention, and were or may be prepared in accordance with, or analogously to, the above-mentioned Examples 1 to 7 or the above-described general methods. In the Tables Ph means phenyl and Me means methyl. Where subscripts are omitted after atoms it will be understood that they are intended, for example CH3 means CH_3.

Compound numbers are given for reference purposes only.

Table I

Compounds of formula (Ia):



(Ia)

Compound	R^1	R^2	R^3
A-1	CH3	CH3	H
A-2	C2H5	CH3	H
A-3	n-C3H7	CH3	H
A-4	i-C3H7	CH3	H
A-5	n-C4H9	CH3	H
A-6	s-C4H9	CH3	H
A-7	i-C4H9	CH3	H
A-8	t-C4H9	CH3	H
A-9	n-C5H11	CH3	H
A-10	n-C6H13	CH3	H
A-11	CH2CH=CH2	CH3	H
A-12	CH2C(CH3)=CH2	CH3	H
A-13	CH2C(CH3)=CHCH3	CH3	H

Compound	R^1	R^2	R^3
A-14	CH2CH=C(CH3)2	CH3	H
A-15	CH2CCl=CH2	CH3	H
A-16	CH2CH=CCl2	CH3	H
A-17	CH2CH=CHCF3	CH3	H
A-18	CH2CH=CHPh	CH3	H
A-19	CH(CH3)CH=CH2	CH3	H
A-20	CH2CCH	CH3	H
A-21	CH2CCCH3	CH3	H
A-22	CH2CF3	CH3	H
A-23	CH2CH2OCH3	CH3	H
A-24	CH2CH2OC2H5	CH3	H
A-25	CH2CH2CH2OCH3	CH3	H
A-26	CH2CH2CH2OC2H5	CH3	H
A-27	CH2CH(OCH3)2	CH3	H
A-28	CH2CN	CH3	H
A-29	CH2(cyclo-C3H5)	CH3	H
A-30	CH2(cyclo-C5H9)	CH3	H
A-31	CH2(cyclo-C6H11)	CH3	H
A-32	CH2Ph	CH3	H
A-33	CH2(2-Cl-Ph)	CH3	H
A-34	CH2(3-Cl-Ph)	CH3	H
A-35	CH2(4-Cl-Ph)	CH3	H
A-36	CH2(2-CF3-Ph)	CH3	H
A-37	CH2(3-CF3-Ph)	CH3	H
A-38	CH2(4-CF3-Ph)	CH3	H
A-39	CH2(2-F-Ph)	CH3	H
A-40	CH2(3-F-Ph)	CH3	H
A-41	CH2(4-F-Ph)	CH3	H
A-42	CH2(2-OMe-Ph)	CH3	H
A-43	CH2(3-OMe-Ph)	CH3	H
A-44	CH2(4-OMe-Ph)	CH3	H
A-45	CH(CH3)Ph	CH3	H
A-46	CH(CH3)(2-Cl-Ph)	CH3	H
A-47	CH(CH3)(3-Cl-Ph)	CH3	H
A-48	CH(CH3)(4-Cl-Ph)	CH3	H
A-49	CH(CH3)(2-CF3-Ph)	CH3	H
A-50	CH(CH3)(3-CF3-Ph)	CH3	H
A-51	CH(CH3)(4-CF3-Ph)	CH3	H
A-52	CH2CH2Ph	CH3	H
A-53	CH3	CH3	CH3
A-54	C2H5	CH3	CH3
A-55	n-C3H7	CH3	CH3
A-56	i-C3H7	CH3	CH3

Compound	R^1	R^2	R^3
A-57	n-C4H9	CH3	CH3
A-58	s-C4H9	CH3	CH3
A-59	i-C4H9	CH3	CH3
A-60	t-C4H9	CH3	CH3
A-61	n-C5H11	CH3	CH3
A-62	n-C6H13	CH3	CH3
A-63	CH2CH=CH2	CH3	CH3
A-64	CH2C(CH3)=CH2	CH3	CH3
A-65	CH2C(CH3)=CHCH3	CH3	CH3
A-66	CH2CH=C(CH3)2	CH3	CH3
A-67	CH2CCl=CH2	CH3	CH3
A-68	CH2CH=CCl2	CH3	CH3
A-69	CH2CH=CHCF3	CH3	CH3
A-70	CH2CH=CHPh	CH3	CH3
A-71	CH(CH3)CH=CH2	CH3	CH3
A-72	CH2CCH	CH3	CH3
A-73	CH2CCCH3	CH3	CH3
A-74	CH2CF3	CH3	CH3
A-75	CH2CH2OCH3	CH3	CH3
A-76	CH2CH2OC2H5	CH3	CH3
A-77	CH2CH2CH2OCH3	CH3	CH3
A-78	CH2CH2CH2OC2H5	CH3	CH3
A-79	CH2CH(OCH3)2	CH3	CH3
A-80	CH2CN	CH3	CH3
A-81	CH2(cyclo-C3H5)	CH3	CH3
A-82	CH2(cyclo-C5H9)	CH3	CH3
A-83	CH2(cyclo-C6H11)	CH3	CH3
A-84	CH2CO2CH3	CH3	CH3
A-85	CH2CO2C2H5	CH3	CH3
A-86	CH(CH3)CO2CH3	CH3	CH3
A-87	CH(CH3)CO2C2H5	CH3	CH3
A-88	C(CH3)2CO2CH3	CH3	CH3
A-89	CH2Ph	CH3	CH3
A-90	CH2(2-Cl-Ph)	CH3	CH3
A-91	CH2(3-Cl-Ph)	CH3	CH3
A-92	CH2(4-Cl-Ph)	CH3	CH3
A-93	CH2(2-CF3-Ph)	CH3	CH3
A-94	CH2(3-CF3-Ph)	CH3	CH3
A-95	CH2(4-CF3-Ph)	CH3	CH3
A-96	CH2(2-F-Ph)	CH3	CH3
A-97	CH2(3-F-Ph)	CH3	CH3
A-98	CH2(4-F-Ph)	CH3	CH3
A-99	CH2(2-OMe-Ph)	CH3	CH3

Compound	R^1	R^2	R^3
A-100	CH2(3-OMe-Ph)	CH3	CH3
A-101	CH2(4-OMe-Ph)	CH3	CH3
A-102	CH(CH3)Ph	CH3	CH3
A-103	CH(CH3)(2-Cl-Ph)	CH3	CH3
A-104	CH(CH3)(3-Cl-Ph)	CH3	CH3
A-105	CH(CH3)(4-Cl-Ph)	CH3	CH3
A-106	CH(CH3)(2-CF3-Ph)	CH3	CH3
A-107	CH(CH3)(3-CF3-Ph)	CH3	CH3
A-108	CH(CH3)(4-CF3-Ph)	CH3	CH3
A-109	CH2CH2Ph	CH3	CH3
A-110	CH3	C2H5	H
A-111	C2H5	C2H5	H
A-112	n-C3H7	C2H5	H
A-113	i-C3H7	C2H5	H
A-114	n-C4H9	C2H5	H
A-115	s-C4H9	C2H5	H
A-116	i-C4H9	C2H5	H
A-117	t-C4H9	C2H5	H
A-118	n-C5H11	C2H5	H
A-119	n-C6H13	C2H5	H
A-120	CH2CH=CH2	C2H5	H
A-121	CH2C(CH3)=CH2	C2H5	H
A-122	CH2C(CH3)=CHCH3	C2H5	H
A-123	CH2CH=C(CH3)2	C2H5	H
A-124	CH2CCl=CH2	C2H5	H
A-125	CH2CH=CCl2	C2H5	H
A-126	CH2CH=CHCF3	C2H5	H
A-127	CH2CH=CHPh	C2H5	H
A-128	CH(CH3)CH=CH2	C2H5	H
A-129	CH2CCH	C2H5	H
A-130	CH2CCCH3	C2H5	H
A-131	CH2CF3	C2H5	H
A-132	CH2CH2OCH3	C2H5	H
A-133	CH2CH2OC2H5	C2H5	H
A-134	CH2CH2CH2OCH3	C2H5	H
A-135	CH2CH2CH2OC2H5	C2H5	H
A-136	CH2CH(OCH3)2	C2H5	H
A-137	CH2CN	C2H5	H
A-138	CH2(cyclo-C3H5)	C2H5	H
A-139	CH2(cyclo-C5H9)	C2H5	H
A-140	CH2(cyclo-C6H11)	C2H5	H
A-141	CH2Ph	C2H5	H
A-142	CH2(2-Cl-Ph)	C2H5	H

Compound	R^1	R^2	R^3
A-143	CH2(3-Cl-Ph)	C2H5	H
A-144	CH2(4-Cl-Ph)	C2H5	H
A-145	CH2(2-CF3-Ph)	C2H5	H
A-146	CH2(3-CF3-Ph)	C2H5	H
A-147	CH2(4-CF3-Ph)	C2H5	H
A-148	CH2(2-F-Ph)	C2H5	H
A-149	CH2(3-F-Ph)	C2H5	H
A-150	CH2(4-F-Ph)	C2H5	H
A-151	CH2(2-OMe-Ph)	C2H5	H
A-152	CH2(3-OMe-Ph)	C2H5	H
A-153	CH2(4-OMe-Ph)	C2H5	H
A-154	CH(CH3)Ph	C2H5	H
A-155	CH(CH3)(2-Cl-Ph)	C2H5	H
A-156	CH(CH3)(3-Cl-Ph)	C2H5	H
A-157	CH(CH3)(4-Cl-Ph)	C2H5	H
A-158	CH(CH3)(2-CF3-Ph)	C2H5	H
A-159	CH(CH3)(3-CF3-Ph)	C2H5	H
A-160	CH(CH3)(4-CF3-Ph)	C2H5	H
A-161	CH2CH2Ph	C2H5	H
A-162	CH3	C2H5	C2H5
A-163	C2H5	C2H5	C2H5
A-164	n-C3H7	C2H5	C2H5
A-165	i-C3H7	C2H5	C2H5
A-166	n-C4H9	C2H5	C2H5
A-167	s-C4H9	C2H5	C2H5
A-168	i-C4H9	C2H5	C2H5
A-169	t-C4H9	C2H5	C2H5
A-170	n-C5H11	C2H5	C2H5
A-171	n-C6H13	C2H5	C2H5
A-172	CH2CH=CH2	C2H5	C2H5
A-173	CH2C(CH3)=CH2	C2H5	C2H5
A-174	CH2C(CH3)=CHCH3	C2H5	C2H5
A-175	CH2CH=C(CH3)2	C2H5	C2H5
A-176	CH2CCl=CH2	C2H5	C2H5
A-177	CH2CH=CCl2	C2H5	C2H5
A-178	CH2CH=CHCF3	C2H5	C2H5
A-179	CH2CH=CHPh	C2H5	C2H5
A-180	CH(CH3)CH=CH2	C2H5	C2H5
A-181	CH2CCH	C2H5	C2H5
A-182	CH2CCCH3	C2H5	C2H5
A-183	CH2CF3	C2H5	C2H5
A-184	CH2CH2OCH3	C2H5	C2H5
A-185	CH2CH2OC2H5	C2H5	C2H5

Compound	R^1	R^2	R^3
A-186	CH2CH2CH2OCH3	C2H5	C2H5
A-187	CH2CH2CH2OC2H5	C2H5	C2H5
A-188	CH2CH(OCH3)2	C2H5	C2H5
A-189	CH2CN	C2H5	C2H5
A-190	CH2(cyclo-C3H5)	C2H5	C2H5
A-191	CH2(cyclo-C5H9)	C2H5	C2H5
A-192	CH2(cyclo-C6H11)	C2H5	C2H5
A-193	CH2CO2CH3	C2H5	C2H5
A-194	CH2CO2C2H5	C2H5	C2H5
A-195	CH(CH3)CO2CH3	C2H5	C2H5
A-196	CH(CH3)CO2C2H5	C2H5	C2H5
A-197	C(CH3)2CO2CH3	C2H5	C2H5
A-198	CH2Ph	C2H5	C2H5
A-199	CH2(2-Cl-Ph)	C2H5	C2H5
A-200	CH2(3-Cl-Ph)	C2H5	C2H5
A-201	CH2(4-Cl-Ph)	C2H5	C2H5
A-202	CH2(2-CF3-Ph)	C2H5	C2H5
A-203	CH2(3-CF3-Ph)	C2H5	C2H5
A-204	CH2(4-CF3-Ph)	C2H5	C2H5
A-205	CH2(2-F-Ph)	C2H5	C2H5
A-206	CH2(3-F-Ph)	C2H5	C2H5
A-207	CH2(4-F-Ph)	C2H5	C2H5
A-208	CH2(2-OMe-Ph)	C2H5	C2H5
A-209	CH2(3-OMe-Ph)	C2H5	C2H5
A-210	CH2(4-OMe-Ph)	C2H5	C2H5
A-211	CH(CH3)Ph	C2H5	C2H5
A-212	CH(CH3)(2-Cl-Ph)	C2H5	C2H5
A-213	CH(CH3)(3-Cl-Ph)	C2H5	C2H5
A-214	CH(CH3)(4-Cl-Ph)	C2H5	C2H5
A-215	CH(CH3)(2-CF3-Ph)	C2H5	C2H5
A-216	CH(CH3)(3-CF3-Ph)	C2H5	C2H5
A-217	CH(CH3)(4-CF3-Ph)	C2H5	C2H5
A-218	CH2CH2Ph	C2H5	C2H5
A-219	CH3	i-C3H7	H
A-220	C2H5	i-C3H7	H
A-221	n-C3H7	i-C3H7	H
A-222	i-C3H7	i-C3H7	H
A-223	n-C4H9	i-C3H7	H
A-224	s-C4H9	i-C3H7	H
A-225	i-C4H9	i-C3H7	H
A-226	t-C4H9	i-C3H7	H
A-227	n-C5H11	i-C3H7	H
A-228	n-C6H13	i-C3H7	H

Compound	R^1	R^2	R^3
A-229	CH2CH=CH2	i-C3H7	H
A-230	CH2C(CH3)=CH2	i-C3H7	H
A-231	CH2CH=CHCH3	i-C3H7	H
A-232	CH2CH=C(CH3)2	i-C3H7	H
A-233	CH2CCl=CH2	i-C3H7	H
A-234	CH2CH=CCl2	i-C3H7	H
A-235	CH2CH=CHCF3	i-C3H7	H
A-236	CH2CH=CHPh	i-C3H7	H
A-237	CH(CH3)CH=CH2	i-C3H7	H
A-238	CH2CCH	i-C3H7	H
A-239	CH2CCCH3	i-C3H7	H
A-240	CH2CF3	i-C3H7	H
A-241	CH2CH2OCH3	i-C3H7	H
A-242	CH2CH2OC2H5	i-C3H7	H
A-243	CH2CH2CH2OCH3	i-C3H7	H
A-244	CH2CH2CH2OC2H5	i-C3H7	H
A-245	CH2CH(OCH3)2	i-C3H7	H
A-246	CH2CN	i-C3H7	H
A-247	CH2(cyclo-C3H5)	i-C3H7	H
A-248	CH2(cyclo-C5H9)	i-C3H7	H
A-249	CH2(cyclo-C6H11)	i-C3H7	H
A-250	CH2Ph	i-C3H7	H
A-251	CH2(2-Cl-Ph)	i-C3H7	H
A-252	CH2(3-Cl-Ph)	i-C3H7	H
A-253	CH2(4-Cl-Ph)	i-C3H7	H
A-254	CH2(2-CF3-Ph)	i-C3H7	H
A-255	CH2(3-CF3-Ph)	i-C3H7	H
A-256	CH2(4-CF3-Ph)	i-C3H7	H
A-257	CH2(2-F-Ph)	i-C3H7	H
A-258	CH2(3-F-Ph)	i-C3H7	H
A-259	CH2(4-F-Ph)	i-C3H7	H
A-260	CH2(2-OMe-Ph)	i-C3H7	H
A-261	CH2(3-OMe-Ph)	i-C3H7	H
A-262	CH2(4-OMe-Ph)	i-C3H7	H
A-263	CH(CH3)Ph	i-C3H7	H
A-264	CH(CH3)(2-Cl-Ph)	i-C3H7	H
A-265	CH(CH3)(3-Cl-Ph)	i-C3H7	H
A-266	CH(CH3)(4-Cl-Ph)	i-C3H7	H
A-267	CH(CH3)(2-CF3-Ph)	i-C3H7	H
A-268	CH(CH3)(3-CF3-Ph)	i-C3H7	H
A-269	CH(CH3)(4-CF3-Ph)	i-C3H7	H
A-270	CH2CH2Ph	i-C3H7	H
A-271	CH3	n-C3H7	H

Compound	R^1	R^2	R^3
A-272	C2H5	n-C3H7	H
A-273	n-C3H7	n-C3H7	H
A-274	i-C3H7	n-C3H7	H
A-275	n-C4H9	n-C3H7	H
A-276	s-C4H9	n-C3H7	H
A-277	i-C4H9	n-C3H7	H
A-278	t-C4H9	n-C3H7	H
A-279	n-C5H11	n-C3H7	H
A-280	n-C6H13	n-C3H7	H
A-281	CH2CH=CH2	n-C3H7	H
A-282	CH2C(CH3)=CH2	n-C3H7	H
A-283	CH2CH=CHCH3	n-C3H7	H
A-284	CH2CH=C(CH3)2	n-C3H7	H
A-285	CH2CCl=CH2	n-C3H7	H
A-286	CH2CH=CCl2	n-C3H7	H
A-287	CH2CH=CHCF3	n-C3H7	H
A-288	CH2CH=CHPh	n-C3H7	H
A-289	CH(CH3)CH=CH2	n-C3H7	H
A-290	CH2CCH	n-C3H7	H
A-291	CH2CCCH3	n-C3H7	H
A-292	CH2CF3	n-C3H7	H
A-293	CH2CH2OCH3	n-C3H7	H
A-294	CH2CH2OC2H5	n-C3H7	H
A-295	CH2CH2CH2OCH3	n-C3H7	H
A-296	CH2CH2CH2OC2H5	n-C3H7	H
A-297	CH2CH(OCH3)2	n-C3H7	H
A-298	CH2CN	n-C3H7	H
A-299	CH2(cyclo-C3H5)	n-C3H7	H
A-300	CH2(cyclo-C5H9)	n-C3H7	H
A-301	CH2(cyclo-C6H11)	n-C3H7	H
A-302	CH2Ph	n-C3H7	H
A-303	CH2(2-Cl-Ph)	n-C3H7	H
A-304	CH2(3-Cl-Ph)	n-C3H7	H
A-305	CH2(4-Cl-Ph)	n-C3H7	H
A-306	CH2(2-CF3-Ph)	n-C3H7	H
A-307	CH2(3-CF3-Ph)	n-C3H7	H
A-308	CH2(4-CF3-Ph)	n-C3H7	H
A-309	CH2(2-F-Ph)	n-C3H7	H
A-310	CH2(3-F-Ph)	n-C3H7	H
A-311	CH2(4-F-Ph)	n-C3H7	H
A-312	CH2(2-OMe-Ph)	n-C3H7	H
A-313	CH2(3-OMe-Ph)	n-C3H7	H
A-314	CH2(4-OMe-Ph)	n-C3H7	H

Compound	R^1	R^2	R^3
A-315	CH(CH3)Ph	n-C3H7	H
A-316	CH(CH3)(2-Cl-Ph)	n-C3H7	H
A-317	CH(CH3)(3-Cl-Ph)	n-C3H7	H
A-318	CH(CH3)(4-Cl-Ph)	n-C3H7	H
A-319	CH(CH3)(2-CF3-Ph)	n-C3H7	H
A-320	CH(CH3)(3-CF3-Ph)	n-C3H7	H
A-321	CH(CH3)(4-CF3-Ph)	n-C3H7	H
A-322	CH2CH2Ph	n-C3H7	H
A-323	CH3	n-C4H9	H
A-324	C2H5	n-C4H9	H
A-325	n-C3H7	n-C4H9	H
A-326	i-C3H7	n-C4H9	H
A-327	n-C4H9	n-C4H9	H
A-328	s-C4H9	n-C4H9	H
A-329	i-C4H9	n-C4H9	H
A-330	t-C4H9	n-C4H9	H
A-331	n-C5H11	n-C4H9	H
A-332	n-C6H13	n-C4H9	H
A-333	CH2CH=CH2	n-C4H9	H
A-334	CH2C(CH3)=CH2	n-C4H9	H
A-335	CH2C(CH3)=CHCH3	n-C4H9	H
A-336	CH2CH=C(CH3)2	n-C4H9	H
A-337	CH2CCl=CH2	n-C4H9	H
A-338	CH2CH=CCl2	n-C4H9	H
A-339	CH2CH=CHCF3	n-C4H9	H
A-340	CH2CH=CHPh	n-C4H9	H
A-341	CH(CH3)CH=CH2	n-C4H9	H
A-342	CH2CCH	n-C4H9	H
A-343	CH2CCCH3	n-C4H9	H
A-344	CH2CF3	n-C4H9	H
A-345	CH2CH2OCH3	n-C4H9	H
A-346	CH2CH2OC2H5	n-C4H9	H
A-347	CH2CH2CH2OCH3	n-C4H9	H
A-348	CH2CH2CH2OC2H5	n-C4H9	H
A-349	CH2CH(OCH3)2	n-C4H9	H
A-350	CH2CN	n-C4H9	H
A-351	CH2(cyclo-C3H5)	n-C4H9	H
A-352	CH2(cyclo-C5H9)	n-C4H9	H
A-353	CH2(cyclo-C6H11)	n-C4H9	H
A-354	CH2Ph	n-C4H9	H
A-355	CH2(2-Cl-Ph)	n-C4H9	H
A-356	CH2(3-Cl-Ph)	n-C4H9	H
A-357	CH2(4-Cl-Ph)	n-C4H9	H

Compound	R^1	R^2	R^3
A-358	CH2(2-CF3-Ph)	n-C4H9	H
A-359	CH2(3-CF3-Ph)	n-C4H9	H
A-360	CH2(4-CF3-Ph)	n-C4H9	H
A-361	CH2(2-F-Ph)	n-C4H9	H
A-362	CH2(3-F-Ph)	n-C4H9	H
A-363	CH2(4-F-Ph)	n-C4H9	H
A-364	CH2(2-OMe-Ph)	n-C4H9	H
A-365	CH2(3-OMe-Ph)	n-C4H9	H
A-366	CH2(4-OMe-Ph)	n-C4H9	H
A-367	CH(CH3)Ph	n-C4H9	H
A-368	CH(CH3)(2-Cl-Ph)	n-C4H9	H
A-369	CH(CH3)(3-Cl-Ph)	n-C4H9	H
A-370	CH(CH3)(4-Cl-Ph)	n-C4H9	H
A-371	CH(CH3)(2-CF3-Ph)	n-C4H9	H
A-372	CH(CH3)(3-CF3-Ph)	n-C4H9	H
A-373	CH(CH3)(4-CF3-Ph)	n-C4H9	H
A-374	CH2CH2Ph	n-C4H9	H
A-375	CH3	s-C4H9	H
A-376	C2H5	s-C4H9	H
A-377	n-C3H7	s-C4H9	H
A-378	i-C3H7	s-C4H9	H
A-379	n-C4H9	s-C4H9	H
A-380	s-C4H9	s-C4H9	H
A-381	i-C4H9	s-C4H9	H
A-382	t-C4H9	s-C4H9	H
A-383	n-C5H11	s-C4H9	H
A-384	n-C6H13	s-C4H9	H
A-385	CH2CH=CH2	s-C4H9	H
A-386	CH2C(CH3)=CH2	s-C4H9	H
A-387	CH2CH=CHCH3	s-C4H9	H
A-388	CH2CH=C(CH3)2	s-C4H9	H
A-389	CH2CCl=CH2	s-C4H9	H
A-390	CH2CH=CCl2	s-C4H9	H
A-391	CH2CH=CHCF3	s-C4H9	H
A-392	CH2CH=CHPh	s-C4H9	H
A-393	CH(CH3)CH=CH2	s-C4H9	H
A-394	CH2CCH	s-C4H9	H
A-395	CH2CCCH3	s-C4H9	H
A-396	CH2CF3	s-C4H9	H
A-397	CH2CH2OCH3	s-C4H9	H
A-398	CH2CH2OC2H5	s-C4H9	H
A-399	CH2CH2CH2OCH3	s-C4H9	H
A-400	CH2CH2CH2OC2H5	s-C4H9	H

Compound	R^1	R^2	R^3
A-401	CH2CH(OCH3)2	s-C4H9	H
A-402	CH2CN	s-C4H9	H
A-403	CH2(cyclo-C3H5)	s-C4H9	H
A-404	CH2(cyclo-C5H9)	s-C4H9	H
A-405	CH2(cyclo-C6H11)	s-C4H9	H
A-406	CH2Ph	s-C4H9	H
A-407	CH2(2-Cl-Ph)	s-C4H9	H
A-408	CH2(3-Cl-Ph)	s-C4H9	H
A-409	CH2(4-Cl-Ph)	s-C4H9	H
A-410	CH2(2-CF3-Ph)	s-C4H9	H
A-411	CH2(3-CF3-Ph)	s-C4H9	H
A-412	CH2(4-CF3-Ph)	s-C4H9	H
A-413	CH2(2-F-Ph)	s-C4H9	H
A-414	CH2(3-F-Ph)	s-C4H9	H
A-415	CH2(4-F-Ph)	s-C4H9	H
A-416	CH2(2-OMe-Ph)	s-C4H9	H
A-417	CH2(3-OMe-Ph)	s-C4H9	H
A-418	CH2(4-OMe-Ph)	s-C4H9	H
A-419	CH(CH3)Ph	s-C4H9	H
A-420	CH(CH3)(2-Cl-Ph)	s-C4H9	H
A-421	CH(CH3)(3-Cl-Ph)	s-C4H9	H
A-422	CH(CH3)(4-Cl-Ph)	s-C4H9	H
A-423	CH(CH3)(2-CF3-Ph)	s-C4H9	H
A-424	CH(CH3)(3-CF3-Ph)	s-C4H9	H
A-425	CH(CH3)(4-CF3-Ph)	s-C4H9	H
A-426	CH2CH2Ph	s-C4H9	H
A-427	CH3	i-C4H9	H
A-428	C2H5	i-C4H9	H
A-429	n-C3H7	i-C4H9	H
A-430	i-C3H7	i-C4H9	H
A-431	n-C4H9	i-C4H9	H
A-432	s-C4H9	i-C4H9	H
A-433	i-C4H9	i-C4H9	H
A-434	t-C4H9	i-C4H9	H
A-435	n-C5H11	i-C4H9	H
A-436	n-C6H13	i-C4H9	H
A-437	CH2CH=CH2	i-C4H9	H
A-438	CH2C(CH3)=CH2	i-C4H9	H
A-439	CH2CH=CHCH3	i-C4H9	H
A-440	CH2CH=C(CH3)2	i-C4H9	H
A-441	CH2CCl=CH2	i-C4H9	H
A-442	CH2CH=CCl2	i-C4H9	H
A-443	CH2CH=CHCF3	i-C4H9	H

Compound	R^1	R^2	R^3
A-444	CH2CH=CHPh	i-C4H9	H
A-445	CH(CH3)CH=CH2	i-C4H9	H
A-446	CH2CCH	i-C4H9	H
A-447	CH2CCCH3	i-C4H9	H
A-448	CH2CF3	i-C4H9	H
A-449	CH2CH2OCH3	i-C4H9	H
A-450	CH2CH2OC2H5	i-C4H9	H
A-451	CH2CH2CH2OCH3	i-C4H9	H
A-452	CH2CH2CH2OC2H5	i-C4H9	H
A-453	CH2CH(OCH3)2	i-C4H9	H
A-454	CH2CN	i-C4H9	H
A-455	CH2(cyclo-C3H5)	i-C4H9	H
A-456	CH2(cyclo-C5H9)	i-C4H9	H
A-457	CH2(cyclo-C6H11)	i-C4H9	H
A-458	CH2Ph	i-C4H9	H
A-459	CH2(2-Cl-Ph)	i-C4H9	H
A-460	CH2(3-Cl-Ph)	i-C4H9	H
A-461	CH2(4-Cl-Ph)	i-C4H9	H
A-462	CH2(2-CF3-Ph)	i-C4H9	H
A-463	CH2(3-CF3-Ph)	i-C4H9	H
A-464	CH2(4-CF3-Ph)	i-C4H9	H
A-465	CH2(2-F-Ph)	i-C4H9	H
A-466	CH2(3-F-Ph)	i-C4H9	H
A-467	CH2(4-F-Ph)	i-C4H9	H
A-468	CH2(2-OMe-Ph)	i-C4H9	H
A-469	CH2(3-OMe-Ph)	i-C4H9	H
A-470	CH2(4-OMe-Ph)	i-C4H9	H
A-471	CH(CH3)Ph	i-C4H9	H
A-472	CH(CH3)(2-Cl-Ph)	i-C4H9	H
A-473	CH(CH3)(3-Cl-Ph)	i-C4H9	H
A-474	CH(CH3)(4-Cl-Ph)	i-C4H9	H
A-475	CH(CH3)(2-CF3-Ph)	i-C4H9	H
A-476	CH(CH3)(3-CF3-Ph)	i-C4H9	H
A-477	CH(CH3)(4-CF3-Ph)	i-C4H9	H
A-478	CH2CH2Ph	i-C4H9	H
A-479	CH3	t-C4H9	H
A-480	C2H5	t-C4H9	H
A-481	n-C3H7	t-C4H9	H
A-482	i-C3H7	t-C4H9	H
A-483	n-C4H9	t-C4H9	H
A-484	s-C4H9	t-C4H9	H
A-485	i-C4H9	t-C4H9	H
A-486	t-C4H9	t-C4H9	H

Compound	R^1	R^2	R^3
A-487	n-C5H11	t-C4H9	H
A-488	n-C6H13	t-C4H9	H
A-489	CH2CH=CH2	t-C4H9	H
A-490	CH2C(CH3)=CH2	t-C4H9	H
A-491	CH2CH=CHCH3	t-C4H9	H
A-492	CH2CH=C(CH3)2	t-C4H9	H
A-493	CH2CCl=CH2	t-C4H9	H
A-494	CH2CH=CCl2	t-C4H9	H
A-495	CH2CH=CHCF3	t-C4H9	H
A-496	CH2CH=CHPh	t-C4H9	H
A-497	CH(CH3)CH=CH2	t-C4H9	H
A-498	CH2CCH	t-C4H9	H
A-499	CH2CCCH3	t-C4H9	H
A-500	CH2CF3	t-C4H9	H
A-501	CH2CH2OCH3	t-C4H9	H
A-502	CH2CH2OC2H5	t-C4H9	H
A-503	CH2CH2CH2OCH3	t-C4H9	H
A-504	CH2CO2CH3	t-C4H9	H
A-505	CH2CH(OCH3)2	t-C4H9	H
A-506	CH2CN	t-C4H9	H
A-507	CH2(cyclo-C3H5)	t-C4H9	H
A-508	CH2(cyclo-C5H9)	t-C4H9	H
A-509	CH2(cyclo-C6H11)	t-C4H9	H
A-510	CH2Ph	t-C4H9	H
A-511	CH2(2-Cl-Ph)	t-C4H9	H
A-512	CH2(3-Cl-Ph)	t-C4H9	H
A-513	CH2(4-Cl-Ph)	t-C4H9	H
A-514	CH2(2-CF3-Ph)	t-C4H9	H
A-515	CH2(3-CF3-Ph)	t-C4H9	H
A-516	CH2(4-CF3-Ph)	t-C4H9	H
A-517	CH2(2-F-Ph)	t-C4H9	H
A-518	CH2(3-F-Ph)	t-C4H9	H
A-519	CH2(4-F-Ph)	t-C4H9	H
A-520	CH2(2-OMe-Ph)	t-C4H9	H
A-521	CH2(3-OMe-Ph)	t-C4H9	H
A-522	CH2(4-OMe-Ph)	t-C4H9	H
A-523	CH(CH3)Ph	t-C4H9	H
A-524	CH(CH3)(2-Cl-Ph)	t-C4H9	H
A-525	CH(CH3)(3-Cl-Ph)	t-C4H9	H
A-526	CH(CH3)(4-Cl-Ph)	t-C4H9	H
A-527	CH(CH3)(2-CF3-Ph)	t-C4H9	H
A-528	CH(CH3)(3-CF3-Ph)	t-C4H9	H
A-529	CH(CH3)(4-CF3-Ph)	t-C4H9	H

Compound	R^1	R^2	R^3
A-530	CH2CH2Ph	t-C4H9	H
A-531	n-C3H7	n-C5H11	H
A-532	i-C3H7	n-C5H11	H
A-533	CH2CH=CH2	n-C5H11	H
A-534	CH2C(CH3)=CH2	n-C5H11	H
A-535	CH2C(CH3)=CHCH3	n-C5H11	H
A-536	CH2CH=C(CH3)2	n-C5H11	H
A-537	CH2Ph	n-C5H11	H
A-538	CH2(3-CF3-Ph)	n-C5H11	H
A-539	n-C3H7	C(CH3)2C2H5	H
A-540	i-C3H7	C(CH3)2C2H5	H
A-541	CH2CH=CH2	C(CH3)2C2H5	H
A-542	CH2C(CH3)=CH2	C(CH3)2C2H5	H
A-543	CH2C(CH3)=CHCH3	C(CH3)2C2H5	H
A-544	CH2CH=C(CH3)2	C(CH3)2C2H5	H
A-545	CH2Ph	C(CH3)2C2H5	H
A-546	CH2(3-CF3-Ph)	C(CH3)2C2H5	H
A-547	n-C3H7	CH2CH2CH(CH3)CH3	H
A-548	i-C3H7	CH2CH2CH(CH3)CH3	H
A-549	CH2CH=CH2	CH2CH2CH(CH3)CH3	H
A-550	CH2C(CH3)=CH2	CH2CH2CH(CH3)CH3	H
A-551	CH2C(CH3)=CHCH3	CH2CH2CH(CH3)CH3	H
A-552	CH2CH=C(CH3)2	CH2CH2CH(CH3)CH3	H
A-553	CH2Ph	CH2CH2CH(CH3)CH3	H
A-554	CH2(3-CF3-Ph)	CH2CH2CH(CH3)CH3	H
A-555	n-C3H7	CH2CH(CH3)C2H5	H
A-556	i-C3H7	CH2CH(CH3)C2H5	H
A-557	CH2CH=CH2	CH2CH(CH3)C2H5	H
A-558	CH2C(CH3)=CH2	CH2CH(CH3)C2H5	H
A-559	CH2C(CH3)=CHCH3	CH2CH(CH3)C2H5	H
A-560	CH2CH=C(CH3)2	CH2CH(CH3)C2H5	H
A-561	CH2Ph	CH2CH(CH3)C2H5	H
A-562	CH2(3-CF3-Ph)	CH2CH(CH3)C2H5	H
A-563	n-C3H7	n-C3H7	CH3
A-564	i-C3H7	n-C3H7	CH3
A-565	CH2CH=CH2	n-C3H7	CH3
A-566	CH2C(CH3)=CH2	n-C3H7	CH3
A-567	CH2C(CH3)=CHCH3	n-C3H7	CH3
A-568	CH2CH=C(CH3)2	n-C3H7	CH3
A-569	CH2CO2CH3	n-C3H7	CH3
A-570	CH(CH3)CO2CH3	n-C3H7	CH3
A-571	C(CH3)2CO2CH3	n-C3H7	CH3
A-572	CH2Ph	n-C3H7	CH3

Compound	R^1	R^2	R^3
A-573	CH2(3-CF3-Ph)	n-C3H7	CH3
A-574	n-C3H7	n-C3H7	C2H5
A-575	i-C3H7	n-C3H7	C2H5
A-576	CH2CH=CH2	n-C3H7	C2H5
A-577	CH2C(CH3)=CH2	n-C3H7	C2H5
A-578	CH2C(CH3)=CHCH3	n-C3H7	C2H5
A-579	CH2CH=C(CH3)2	n-C3H7	C2H5
A-580	CH2CO2CH3	n-C3H7	C2H5
A-581	CH(CH3)CO2CH3	n-C3H7	C2H5
A-582	C(CH3)2CO2CH3	n-C3H7	C2H5
A-583	CH2Ph	n-C3H7	C2H5
A-584	CH2(3-CF3-Ph)	n-C3H7	C2H5
A-585	n-C3H7	i-C3H7	CH3
A-586	i-C3H7	i-C3H7	CH3
A-587	CH2CH=CH2	i-C3H7	CH3
A-588	CH2C(CH3)=CH2	i-C3H7	CH3
A-589	CH2C(CH3)=CHCH3	i-C3H7	CH3
A-590	CH2CH=C(CH3)2	i-C3H7	CH3
A-591	CH2CO2CH3	i-C3H7	CH3
A-592	CH(CH3)CO2CH3	i-C3H7	CH3
A-593	C(CH3)2CO2CH3	i-C3H7	CH3
A-594	CH2Ph	i-C3H7	CH3
A-595	CH2(3-CF3-Ph)	i-C3H7	CH3
A-596	n-C3H7	i-C3H7	C2H5
A-597	i-C3H7	i-C3H7	C2H5
A-598	CH2CH=CH2	i-C3H7	C2H5
A-599	CH2C(CH3)=CH2	i-C3H7	C2H5
A-600	CH2C(CH3)=CHCH3	i-C3H7	C2H5
A-601	CH2CH=C(CH3)2	i-C3H7	C2H5
A-602	CH2CO2CH3	i-C3H7	C2H5
A-603	CH(CH3)CO2CH3	i-C3H7	C2H5
A-604	C(CH3)2CO2CH3	i-C3H7	C2H5
A-605	CH2Ph	i-C3H7	C2H5
A-606	CH2(3-CF3-Ph)	i-C3H7	C2H5
A-607	n-C3H7	n-C4H9	CH3
A-608	i-C3H7	n-C4H9	CH3
A-609	CH2CH=CH2	n-C4H9	CH3
A-610	CH2C(CH3)=CH2	n-C4H9	CH3
A-611	CH2C(CH3)=CHCH3	n-C4H9	CH3
A-612	CH2CH=C(CH3)2	n-C4H9	CH3
A-613	CH2CO2CH3	n-C4H9	CH3
A-614	CH(CH3)CO2CH3	n-C4H9	CH3
A-615	C(CH3)2CO2CH3	n-C4H9	CH3

Compound	R^1	R^2	R^3
A-616	CH2Ph	n-C4H9	CH3
A-617	CH2(3-CF3-Ph)	n-C4H9	CH3
A-618	n-C3H7	CH2CH2OCH3	H
A-619	i-C3H7	CH2CH2OCH3	H
A-620	CH2CH=CH2	CH2CH2OCH3	H
A-621	CH2C(CH3)=CH2	CH2CH2OCH3	H
A-622	CH2C(CH3)=CHCH3	CH2CH2OCH3	H
A-623	CH2CH=C(CH3)2	CH2CH2OCH3	H
A-624	CH2Ph	CH2CH2OCH3	H
A-625	CH2(3-CF3-Ph)	CH2CH2OCH3	H
A-626	n-C3H7	CH2CH2OC2H5	H
A-627	i-C3H7	CH2CH2OC2H5	H
A-628	CH2CH=CH2	CH2CH2OC2H5	H
A-629	CH2C(CH3)=CH2	CH2CH2OC2H5	H
A-630	CH2C(CH3)=CHCH3	CH2CH2OC2H5	H
A-631	CH2CH=C(CH3)2	CH2CH2OC2H5	H
A-632	CH2Ph	CH2CH2OC2H5	H
A-633	CH2(3-CF3-Ph)	CH2CH2OC2H5	H
A-634	n-C3H7	CH2CH2OC2H4CH3	H
A-635	i-C3H7	CH2CH2OC2H4CH3	H
A-636	CH2CH=CH2	CH2CH2OC2H4CH3	H
A-637	CH2C(CH3)=CH2	CH2CH2OC2H4CH3	H
A-638	CH2C(CH3)=CHCH3	CH2CH2OC2H4CH3	H
A-639	CH2CH=C(CH3)2	CH2CH2OC2H4CH3	H
A-640	CH2Ph	CH2CH2OC2H4CH3	H
A-641	CH2(3-CF3-Ph)	CH2CH2OC2H4CH3	H
A-642	n-C3H7	CH2CH2OC3H7CH3	H
A-643	i-C3H7	CH2CH2OC3H7CH3	H
A-644	CH2CH=CH2	CH2CH2OC3H7CH3	H
A-645	CH2C(CH3)=CH2	CH2CH2OC3H7CH3	H
A-646	CH2C(CH3)=CHCH3	CH2CH2OC3H7CH3	H
A-647	CH2CH=C(CH3)2	CH2CH2OC3H7CH3	H
A-648	CH2Ph	CH2CH2OC3H7CH3	H
A-649	CH2(3-CF3-Ph)	CH2CH2OC3H7CH3	H
A-650	n-C3H7	CH2CF3	H
A-651	i-C3H7	CH2CF3	H
A-652	CH2CH=CH2	CH2CF3	H
A-653	CH2C(CH3)=CH2	CH2CF3	H
A-654	CH2C(CH3)=CHCH3	CH2CF3	H
A-655	CH2CH=C(CH3)2	CH2CF3	H
A-656	CH2Ph	CH2CF3	H
A-657	CH2(3-CF3-Ph)	CH2CF3	H
A-658	n-C3H7	CH2CN	H

Compound	R^1	R^2	R^3
A-659	i-C3H7	CH2CN	H
A-660	CH2CH=CH2	CH2CN	H
A-661	CH2C(CH3)=CH2	CH2CN	H
A-662	CH2C(CH3)=CHCH3	CH2CN	H
A-663	CH2CH=C(CH3)2	CH2CN	H
A-664	CH2Ph	CH2CN	H
A-665	CH2(3-CF3-Ph)	CH2CN	H
A-666	n-C3H7	C(CH3)2CN	H
A-667	i-C3H7	C(CH3)2CN	H
A-668	CH2CH=CH2	C(CH3)2CN	H
A-669	CH2C(CH3)=CH2	C(CH3)2CN	H
A-670	CH2C(CH3)=CHCH3	C(CH3)2CN	H
A-671	CH2CH=C(CH3)2	C(CH3)2CN	H
A-672	CH2Ph	C(CH3)2CN	H
A-673	CH2(3-CF3-Ph)	C(CH3)2CN	H
A-674	n-C3H7	C(CH3)(i-C3H7)CN	H
A-675	i-C3H7	C(CH3)(i-C3H7)CN	H
A-676	CH2CH=CH2	C(CH3)(i-C3H7)CN	H
A-677	CH2C(CH3)=CH2	C(CH3)(i-C3H7)CN	H
A-678	CH2C(CH3)=CHCH3	C(CH3)(i-C3H7)CN	H
A-679	CH2CH=C(CH3)2	C(CH3)(i-C3H7)CN	H
A-680	CH2Ph	C(CH3)(i-C3H7)CN	H
A-681	CH2(3-CF3-Ph)	C(CH3)(i-C3H7)CN	H
A-682	n-C3H7	CH2CH=CH2	H
A-683	i-C3H7	CH2CH=CH2	H
A-684	CH2CH=CH2	CH2CH=CH2	H
A-685	CH2C(CH3)=CH2	CH2CH=CH2	H
A-686	CH2C(CH3)=CHCH3	CH2CH=CH2	H
A-687	CH2CH=C(CH3)2	CH2CH=CH2	H
A-688	CH2Ph	CH2CH=CH2	H
A-689	CH2(3-CF3-Ph)	CH2CH=CH2	H
A-690	n-C3H7	CH2C(CH3)=CH2	H
A-691	i-C3H7	CH2C(CH3)=CH2	H
A-692	CH2CH=CH2	CH2C(CH3)=CH2	H
A-693	CH2C(CH3)=CH2	CH2C(CH3)=CH2	H
A-694	CH2C(CH3)=CHCH3	CH2C(CH3)=CH2	H
A-695	CH2CH=C(CH3)2	CH2C(CH3)=CH2	H
A-696	CH2Ph	CH2C(CH3)=CH2	H
A-697	CH2(3-CF3-Ph)	CH2C(CH3)=CH2	H
A-698	n-C3H7	CH2CH=CHCH3	H
A-699	i-C3H7	CH2CH=CHCH3	H
A-700	CH2CH=CH2	CH2CH=CHCH3	H
A-701	CH2C(CH3)=CH2	CH2CH=CHCH3	H

Compound	R^1	R^2	R^3
A-702	CH2C(CH3)=CHCH3	CH2CH=CHCH3	H
A-703	CH2CH=C(CH3)2	CH2CH=CHCH3	H
A-704	CH2Ph	CH2CH=CHCH3	H
A-705	CH2(3-CF3-Ph)	CH2CH=CHCH3	H
A-706	n-C3H7	CH2CCH	H
A-707	i-C3H7	CH2CCH	H
A-708	CH2CH=CH2	CH2CCH	H
A-709	CH2C(CH3)=CH2	CH2CCH	H
A-710	CH2C(CH3)=CHCH3	CH2CCH	H
A-711	CH2CH=C(CH3)2	CH2CCH	H
A-712	CH2Ph	CH2CCH	H
A-713	CH2(3-CF3-Ph)	CH2CCH	H
A-714	CH3	CH2Ph	H
A-715	C2H5	CH2Ph	H
A-716	n-C3H7	CH2Ph	H
A-717	i-C3H7	CH2Ph	H
A-718	n-C4H9	CH2Ph	H
A-719	s-C4H9	CH2Ph	H
A-720	i-C4H9	CH2Ph	H
A-721	t-C4H9	CH2Ph	H
A-722	n-C5H11	CH2Ph	H
A-723	n-C6H13	CH2Ph	H
A-724	CH2CH=CH2	CH2Ph	H
A-725	CH2C(CH3)=CH2	CH2Ph	H
A-726	CH2CH=CHCH3	CH2Ph	H
A-727	CH2CH=C(CH3)2	CH2Ph	H
A-728	CH2CCl=CH2	CH2Ph	H
A-729	CH2CH=CCl2	CH2Ph	H
A-730	CH2CH=CHCF3	CH2Ph	H
A-731	CH2CH=CHPh	CH2Ph	H
A-732	CH(CH3)CH=CH2	CH2Ph	H
A-733	CH2CCH	CH2Ph	H
A-734	CH2CCCH3	CH2Ph	H
A-735	CH2CF3	CH2Ph	H
A-736	CH2CH2OCH3	CH2Ph	H
A-737	CH2CH2OC2H5	CH2Ph	H
A-738	CH2CH2CH2OCH3	CH2Ph	H
A-739	CH2CH2CH2OC2H5	CH2Ph	H
A-740	CH2CH(OC2H5)2	CH2Ph	H
A-741	CH2CN	CH2Ph	H
A-742	CH2(cyclo-C3H5)	CH2Ph	H
A-743	CH2(cyclo-C5H9)	CH2Ph	H
A-744	CH2(cyclo-C6H11)	CH2Ph	H

Compound	R^1	R^2	R^3
A-745	CH2Ph	CH2Ph	H
A-746	CH2(2-Cl-Ph)	CH2Ph	H
A-747	CH2(3-Cl-Ph)	CH2Ph	H
A-748	CH2(4-Cl-Ph)	CH2Ph	H
A-749	CH2(2-CF3-Ph)	CH2Ph	H
A-750	CH2(3-CF3-Ph)	CH2Ph	H
A-751	CH2(4-CF3-Ph)	CH2Ph	H
A-752	CH2(2-F-Ph)	CH2Ph	H
A-753	CH2(3-F-Ph)	CH2Ph	H
A-754	CH2(4-F-Ph)	CH2Ph	H
A-755	CH2(2-OMe-Ph)	CH2Ph	H
A-756	CH2(3-OMe-Ph)	CH2Ph	H
A-757	CH2(4-OMe-Ph)	CH2Ph	H
A-758	CH(CH3)Ph	CH2Ph	H
A-759	CH(CH3)(2-Cl-Ph)	CH2Ph	H
A-760	CH(CH3)(3-Cl-Ph)	CH2Ph	H
A-761	CH(CH3)(4-Cl-Ph)	CH2Ph	H
A-762	CH(CH3)(2-CF3-Ph)	CH2Ph	H
A-763	CH(CH3)(3-CF3-Ph)	CH2Ph	H
A-764	CH(CH3)(4-CF3-Ph)	CH2Ph	H
A-765	CH2CH2Ph	CH2Ph	H
A-766	CH3	CH2Ph	CH3
A-767	C2H5	CH2Ph	CH3
A-768	n-C3H7	CH2Ph	CH3
A-769	i-C3H7	CH2Ph	CH3
A-770	n-C4H9	CH2Ph	CH3
A-771	s-C4H9	CH2Ph	CH3
A-772	i-C4H9	CH2Ph	CH3
A-773	t-C4H9	CH2Ph	CH3
A-774	n-C5H11	CH2Ph	CH3
A-775	n-C6H13	CH2Ph	CH3
A-776	CH2CH=CH2	CH2Ph	CH3
A-777	CH2C(CH3)=CH2	CH2Ph	CH3
A-778	CH2C(CH3)=CHCH3	CH2Ph	CH3
A-779	CH2CH=C(CH3)2	CH2Ph	CH3
A-780	CH2CCl=CH2	CH2Ph	CH3
A-781	CH2CH=CCl2	CH2Ph	CH3
A-782	CH2CH=CHCF3	CH2Ph	CH3
A-783	CH2CH=CHPh	CH2Ph	CH3
A-784	CH(CH3)CH=CH2	CH2Ph	CH3
A-785	CH2CCH	CH2Ph	CH3
A-786	CH2CCCH3	CH2Ph	CH3
A-787	CH2CF3	CH2Ph	CH3

Compound	R^1	R^2	R^3
A-788	CH2CH2OCH3	CH2Ph	CH3
A-789	CH2CH2OC2H5	CH2Ph	CH3
A-790	CH2CH2CH2OCH3	CH2Ph	CH3
A-791	CH2CH2CH2OC2H5	CH2Ph	CH3
A-792	CH2CH(OCH3)2	CH2Ph	CH3
A-793	CH2CN	CH2Ph	CH3
A-794	CH2(cyclo-C3H5)	CH2Ph	CH3
A-795	CH2(cyclo-C5H9)	CH2Ph	CH3
A-796	CH2(cyclo-C6H11)	CH2Ph	CH3
A-797	CH2CO2CH3	CH2Ph	CH3
A-798	CH2CO2C2H5	CH2Ph	CH3
A-799	CH(CH3)CO2CH3	CH2Ph	CH3
A-800	CH(CH3)CO2C2H5	CH2Ph	CH3
A-801	C(CH3)2CO2CH3	CH2Ph	CH3
A-802	C(CH3)2CO2C2H5	CH2Ph	CH3
A-803	CH2Ph	CH2Ph	CH3
A-804	CH2(2-Cl-Ph)	CH2Ph	CH3
A-805	CH2(3-Cl-Ph)	CH2Ph	CH3
A-806	CH2(4-Cl-Ph)	CH2Ph	CH3
A-807	CH2(2-CF3-Ph)	CH2Ph	CH3
A-808	CH2(3-CF3-Ph)	CH2Ph	CH3
A-809	CH2(4-CF3-Ph)	CH2Ph	CH3
A-810	CH2(2-F-Ph)	CH2Ph	CH3
A-811	CH2(3-F-Ph)	CH2Ph	CH3
A-812	CH2(4-F-Ph)	CH2Ph	CH3
A-813	CH2(2-OMe-Ph)	CH2Ph	CH3
A-814	CH2(3-OMe-Ph)	CH2Ph	CH3
A-815	CH2(4-OMe-Ph)	CH2Ph	CH3
A-816	CH(CH3)Ph	CH2Ph	CH3
A-817	CH(CH3)(2-Cl-Ph)	CH2Ph	CH3
A-818	CH(CH3)(3-Cl-Ph)	CH2Ph	CH3
A-819	CH(CH3)(4-Cl-Ph)	CH2Ph	CH3
A-820	CH(CH3)(2-CF3-Ph)	CH2Ph	CH3
A-821	CH(CH3)(3-CF3-Ph)	CH2Ph	CH3
A-822	CH(CH3)(4-CF3-Ph)	CH2Ph	CH3
A-823	CH2CH2Ph	CH2Ph	CH3
A-824	n-C3H7	CH2(2-OMe-Ph)	H
A-825	i-C3H7	CH2(2-OMe-Ph)	H
A-826	CH2CH=CH2	CH2(2-OMe-Ph)	H
A-827	CH2C(CH3)=CH2	CH2(2-OMe-Ph)	H
A-828	CH2C(CH3)=CHCH3	CH2(2-OMe-Ph)	H
A-829	CH2CH=C(CH3)2	CH2(2-OMe-Ph)	H
A-830	CH2Ph	CH2(2-OMe-Ph)	H

Compound	R^1	R^2	R^3
A-831	CH2(3-CF3-Ph)	CH2(2-OMe-Ph)	H
A-832	n-C3H7	CH2(3-OMe-Ph)	H
A-833	i-C3H7	CH2(3-OMe-Ph)	H
A-834	CH2CH=CH2	CH2(3-OMe-Ph)	H
A-835	CH2C(CH3)=CH2	CH2(3-OMe-Ph)	H
A-836	CH2C(CH3)=CHCH3	CH2(3-OMe-Ph)	H
A-837	CH2CH=C(CH3)2	CH2(3-OMe-Ph)	H
A-838	CH2Ph	CH2(3-OMe-Ph)	H
A-839	CH2(3-CF3-Ph)	CH2(3-OMe-Ph)	H
A-840	n-C3H7	CH2(4-OMe-Ph)	H
A-841	i-C3H7	CH2(4-OMe-Ph)	H
A-842	CH2CH=CH2	CH2(4-OMe-Ph)	H
A-843	CH2C(CH3)=CH2	CH2(4-OMe-Ph)	H
A-844	CH2C(CH3)=CHCH3	CH2(4-OMe-Ph)	H
A-845	CH2CH=C(CH3)2	CH2(4-OMe-Ph)	H
A-846	CH2Ph	CH2(4-OMe-Ph)	H
A-847	CH2(3-CF3-Ph)	CH2(4-OMe-Ph)	H
A-848	n-C3H7	CH2(2-Cl-Ph)	H
A-849	i-C3H7	CH2(2-Cl-Ph)	H
A-850	CH2CH=CH2	CH2(2-Cl-Ph)	H
A-851	CH2C(CH3)=CH2	CH2(2-Cl-Ph)	H
A-852	CH2C(CH3)=CHCH3	CH2(2-Cl-Ph)	H
A-853	CH2CH=C(CH3)2	CH2(2-Cl-Ph)	H
A-854	CH2Ph	CH2(2-Cl-Ph)	H
A-855	CH2(3-CF3-Ph)	CH2(2-Cl-Ph)	H
A-856	n-C3H7	CH2(3-Cl-Ph)	H
A-857	i-C3H7	CH2(3-Cl-Ph)	H
A-858	CH2CH=CH2	CH2(3-Cl-Ph)	H
A-859	CH2C(CH3)=CH2	CH2(3-Cl-Ph)	H
A-860	CH2C(CH3)=CHCH3	CH2(3-Cl-Ph)	H
A-861	CH2CH=C(CH3)2	CH2(3-Cl-Ph)	H
A-862	CH2Ph	CH2(3-Cl-Ph)	H
A-863	CH2(3-CF3-Ph)	CH2(3-Cl-Ph)	H
A-864	n-C3H7	CH2(4-Cl-Ph)	H
A-865	i-C3H7	CH2(4-Cl-Ph)	H
A-866	CH2CH=CH2	CH2(4-Cl-Ph)	H
A-867	CH2C(CH3)=CH2	CH2(4-Cl-Ph)	H
A-868	CH2C(CH3)=CHCH3	CH2(4-Cl-Ph)	H
A-869	CH2CH=C(CH3)2	CH2(4-Cl-Ph)	H
A-870	CH2Ph	CH2(4-Cl-Ph)	H
A-871	CH2(3-CF3-Ph)	CH2(4-Cl-Ph)	H
A-872	n-C3H7	CH2(2-CF3-Ph)	H
A-873	i-C3H7	CH2(2-CF3-Ph)	H

Compound	R^1	R^2	R^3
A-874	CH2CH=CH2	CH2(2-CF3-Ph)	H
A-875	CH2C(CH3)=CH2	CH2(2-CF3-Ph)	H
A-876	CH2C(CH3)=CHCH3	CH2(2-CF3-Ph)	H
A-877	CH2CH=C(CH3)2	CH2(2-CF3-Ph)	H
A-878	CH2Ph	CH2(2-CF3-Ph)	H
A-879	CH2(3-CF3-Ph)	CH2(2-CF3-Ph)	H
A-880	n-C3H7	CH2(3-CF3-Ph)	H
A-881	i-C3H7	CH2(3-CF3-Ph)	H
A-882	CH2CH=CH2	CH2(3-CF3-Ph)	H
A-883	CH2C(CH3)=CH2	CH2(3-CF3-Ph)	H
A-884	CH2C(CH3)=CHCH3	CH2(3-CF3-Ph)	H
A-885	CH2CH=C(CH3)2	CH2(3-CF3-Ph)	H
A-886	CH2Ph	CH2(3-CF3-Ph)	H
A-887	CH2(3-CF3-Ph)	CH2(3-CF3-Ph)	H
A-888	n-C3H7	CH2(4-CF3-Ph)	H
A-889	i-C3H7	CH2(4-CF3-Ph)	H
A-890	CH2CH=CH2	CH2(4-CF3-Ph)	H
A-891	CH2C(CH3)=CH2	CH2(4-CF3-Ph)	H
A-892	CH2C(CH3)=CHCH3	CH2(4-CF3-Ph)	H
A-893	CH2CH=C(CH3)2	CH2(4-CF3-Ph)	H
A-894	CH2Ph	CH2(4-CF3-Ph)	H
A-895	CH2(3-CF3-Ph)	CH2(4-CF3-Ph)	H
A-896	CH3	cyclo-C3H5	H
A-897	C2H5	cyclo-C3H5	H
A-898	n-C3H7	cyclo-C3H5	H
A-899	i-C3H7	cyclo-C3H5	H
A-900	n-C4H9	cyclo-C3H5	H
A-901	s-C4H9	cyclo-C3H5	H
A-902	n-C5H11	cyclo-C3H5	H
A-903	n-C6H13	cyclo-C3H5	H
A-904	CH2CH=CH2	cyclo-C3H5	H
A-905	CH2C(CH3)=CH2	cyclo-C3H5	H
A-906	CH2C(CH3)=CHCH3	cyclo-C3H5	H
A-907	CH2CH=C(CH3)2	cyclo-C3H5	H
A-908	CH2CCl=CH2	cyclo-C3H5	H
A-909	CH2CH=CCl2	cyclo-C3H5	H
A-910	CH2CH=CHCF3	cyclo-C3H5	H
A-911	CH(CH3)CH=CH2	cyclo-C3H5	H
A-912	CH2CCCH3	cyclo-C3H5	H
A-913	CH2CF3	cyclo-C3H5	H
A-914	CH2CH2OCH3	cyclo-C3H5	H
A-915	CH2CH2OC2H5	cyclo-C3H5	H
A-916	CH2CH2CH2OCH3	cyclo-C3H5	H

Compound	R^1	R^2	R^3
A-917	CH2CH2CH2OC2H5	cyclo-C3H5	H
A-918	CH2CH(OCH3)2	cyclo-C3H5	H
A-919	CH2Ph	cyclo-C3H5	H
A-920	CH2(2-Cl-Ph)	cyclo-C3H5	H
A-921	CH2(3-Cl-Ph)	cyclo-C3H5	H
A-922	CH2(4-Cl-Ph)	cyclo-C3H5	H
A-923	CH2(2-CF3-Ph)	cyclo-C3H5	H
A-924	CH2(3-CF3-Ph)	cyclo-C3H5	H
A-925	CH2(4-CF3-Ph)	cyclo-C3H5	H
A-926	CH(CH3)Ph	cyclo-C3H5	H
A-927	CH3	cyclo-C5H9	H
A-928	C2H5	cyclo-C5H9	H
A-929	n-C3H7	cyclo-C5H9	H
A-930	i-C3H7	cyclo-C5H9	H
A-931	n-C4H9	cyclo-C5H9	H
A-932	s-C4H9	cyclo-C5H9	H
A-933	n-C5H11	cyclo-C5H9	H
A-934	n-C6H13	cyclo-C5H9	H
A-935	CH2CH=CH2	cyclo-C5H9	H
A-936	CH2C(CH3)=CH2	cyclo-C5H9	H
A-937	CH2C(CH3)=CHCH3	cyclo-C5H9	H
A-938	CH2CH=C(CH3)2	cyclo-C5H9	H
A-939	CH2CCl=CH2	cyclo-C5H9	H
A-940	CH2CH=CCl2	cyclo-C5H9	H
A-941	CH2CH=CHCF3	cyclo-C5H9	H
A-942	CH(CH3)CH=CH2	cyclo-C5H9	H
A-943	CH2CCCH3	cyclo-C5H9	H
A-944	CH2CF3	cyclo-C5H9	H
A-945	CH2CH2OCH3	cyclo-C5H9	H
A-946	CH2CH2OC2H5	cyclo-C5H9	H
A-947	CH2CH2CH2OCH3	cyclo-C5H9	H
A-948	CH2CH2CH2OC2H5	cyclo-C5H9	H
A-949	CH2CH(OCH3)2	cyclo-C5H9	H
A-950	CH2Ph	cyclo-C5H9	H
A-951	CH2(2-Cl-Ph)	cyclo-C5H9	H
A-952	CH2(3-Cl-Ph)	cyclo-C5H9	H
A-953	CH2(4-Cl-Ph)	cyclo-C5H9	H
A-954	CH2(2-CF3-Ph)	cyclo-C5H9	H
A-955	CH2(3-CF3-Ph)	cyclo-C5H9	H
A-956	CH2(4-CF3-Ph)	cyclo-C5H9	H
A-957	CH(CH3)Ph	cyclo-C5H9	H
A-958	CH3	cyclo-C6H11	H
A-959	C2H5	cyclo-C6H11	H

Compound	R^1	R^2	R^3
A-960	n-C3H7	cyclo-C6H11	H
A-961	i-C3H7	cyclo-C6H11	H
A-962	n-C4H9	cyclo-C6H11	H
A-963	s-C4H9	cyclo-C6H11	H
A-964	n-C5H11	cyclo-C6H11	H
A-965	n-C6H13	cyclo-C6H11	H
A-966	CH2CH=CH2	cyclo-C6H11	H
A-967	CH2C(CH3)=CH2	cyclo-C6H11	H
A-968	CH2C(CH3)=CHCH3	cyclo-C6H11	H
A-969	CH2CH=C(CH3)2	cyclo-C6H11	H
A-970	CH2CCl=CH2	cyclo-C6H11	H
A-971	CH2CH=CCl2	cyclo-C6H11	H
A-972	CH2CH=CHCF3	cyclo-C6H11	H
A-973	CH(CH3)CH=CH2	cyclo-C6H11	H
A-974	CH2CCCH3	cyclo-C6H11	H
A-975	CH2CF3	cyclo-C6H11	H
A-976	CH2CH2OCH3	cyclo-C6H11	H
A-977	CH2CH2OC2H5	cyclo-C6H11	H
A-978	CH2CH2CH2OCH3	cyclo-C6H11	H
A-979	CH2CH2CH2OC2H5	cyclo-C6H11	H
A-980	CH2CH(OCH3)2	cyclo-C6H11	H
A-981	CH2Ph	cyclo-C6H11	H
A-982	CH2(2-Cl-Ph)	cyclo-C6H11	H
A-983	CH2(3-Cl-Ph)	cyclo-C6H11	H
A-984	CH2(4-Cl-Ph)	cyclo-C6H11	H
A-985	CH2(2-CF3-Ph)	cyclo-C6H11	H
A-986	CH2(3-CF3-Ph)	cyclo-C6H11	H
A-987	CH2(4-CF3-Ph)	cyclo-C6H11	H
A-988	CH(CH3)Ph	cyclo-C6H11	H
A-989	CH3	cyclo-C6H11	CH3
A-990	C2H5	cyclo-C6H11	CH3
A-991	n-C3H7	cyclo-C6H11	CH3
A-992	i-C3H7	cyclo-C6H11	CH3
A-993	n-C4H9	cyclo-C6H11	CH3
A-994	s-C4H9	cyclo-C6H11	CH3
A-995	n-C5H11	cyclo-C6H11	CH3
A-996	n-C6H13	cyclo-C6H11	CH3
A-997	CH2CH=CH2	cyclo-C6H11	CH3
A-998	CH2C(CH3)=CH2	cyclo-C6H11	CH3
A-999	CH2C(CH3)=CHCH3	cyclo-C6H11	CH3
A-1000	CH2CH=C(CH3)2	cyclo-C6H11	CH3
A-1001	CH2CCl=CH2	cyclo-C6H11	CH3
A-1002	CH2CH=CCl2	cyclo-C6H11	CH3

Compound	R^1	R^2	R^3
A-1003	CH2CH=CHCF3	cyclo-C6H11	CH3
A-1004	CH(CH3)CH=CH2	cyclo-C6H11	CH3
A-1005	CH2CCCH3	cyclo-C6H11	CH3
A-1006	CH2CF3	cyclo-C6H11	CH3
A-1007	CH2CH2OCH3	cyclo-C6H11	CH3
A-1008	CH2CH2OC2H5	cyclo-C6H11	CH3
A-1009	CH2CH2CH2OCH3	cyclo-C6H11	CH3
A-1010	CH2CH2CH2OC2H5	cyclo-C6H11	CH3
A-1011	CH2CH(OCH3)2	cyclo-C6H11	CH3
A-1012	CH2CO2CH3	cyclo-C6H11	CH3
A-1013	CH2CO2C2H5	cyclo-C6H11	CH3
A-1014	CH(CH3)CO2CH3	cyclo-C6H11	CH3
A-1015	CH(CH3)CO2C2H5	cyclo-C6H11	CH3
A-1016	C(CH3)2CO2CH3	cyclo-C6H11	CH3
A-1017	C(CH3)2CO2C2H5	cyclo-C6H11	CH3
A-1018	CH2Ph	cyclo-C6H11	CH3
A-1019	CH2(2-Cl-Ph)	cyclo-C6H11	CH3
A-1020	CH2(3-Cl-Ph)	cyclo-C6H11	CH3
A-1021	CH2(4-Cl-Ph)	cyclo-C6H11	CH3
A-1022	CH2(2-CF3-Ph)	cyclo-C6H11	CH3
A-1023	CH2(3-CF3-Ph)	cyclo-C6H11	CH3
A-1024	CH2(4-CF3-Ph)	cyclo-C6H11	CH3
A-1025	CH(CH3)Ph	cyclo-C6H11	CH3
A-1026	CH3	cyclo-C6H11	C2H5
A-1027	C2H5	cyclo-C6H11	C2H5
A-1028	n-C3H7	cyclo-C6H11	C2H5
A-1029	i-C3H7	cyclo-C6H11	C2H5
A-1030	n-C4H9	cyclo-C6H11	C2H5
A-1031	s-C4H9	cyclo-C6H11	C2H5
A-1032	n-C5H11	cyclo-C6H11	C2H5
A-1033	n-C6H13	cyclo-C6H11	C2H5
A-1034	CH2CH=CH2	cyclo-C6H11	C2H5
A-1035	CH2C(CH3)=CH2	cyclo-C6H11	C2H5
A-1036	CH2C(CH3)=CHCH3	cyclo-C6H11	C2H5
A-1037	CH2CH=C(CH3)2	cyclo-C6H11	C2H5
A-1038	CH2CCl=CH2	cyclo-C6H11	C2H5
A-1039	CH2CH=CCl2	cyclo-C6H11	C2H5
A-1040	CH2CH=CHCF3	cyclo-C6H11	C2H5
A-1041	CH(CH3)CH=CH2	cyclo-C6H11	C2H5
A-1042	CH2CCCH3	cyclo-C6H11	C2H5
A-1043	CH2CF3	cyclo-C6H11	C2H5
A-1044	CH2CH2OCH3	cyclo-C6H11	C2H5
A-1045	CH2CH2OC2H5	cyclo-C6H11	C2H5

Compound	R^1	R^2	R^3
A-1046	CH2CH2CH2OCH3	cyclo-C6H11	C2H5
A-1047	CH2CH2CH2OC2H5	cyclo-C6H11	C2H5
A-1048	CH2CH(OCH3)2	cyclo-C6H11	C2H5
A-1049	CH2CO2CH3	cyclo-C6H11	C2H5
A-1050	CH2CO2C2H5	cyclo-C6H11	C2H5
A-1051	CH(CH3)CO2CH3	cyclo-C6H11	C2H5
A-1052	CH(CH3)CO2C2H5	cyclo-C6H11	C2H5
A-1053	C(CH3)2CO2CH3	cyclo-C6H11	C2H5
A-1054	C(CH3)2CO2C2H5	cyclo-C6H11	C2H5
A-1055	CH2Ph	cyclo-C6H11	C2H5
A-1056	CH2(2-Cl-Ph)	cyclo-C6H11	C2H5
A-1057	CH2(3-Cl-Ph)	cyclo-C6H11	C2H5
A-1058	CH2(4-Cl-Ph)	cyclo-C6H11	C2H5
A-1059	CH2(2-CF3-Ph)	cyclo-C6H11	C2H5
A-1060	CH2(3-CF3-Ph)	cyclo-C6H11	C2H5
A-1061	CH2(4-CF3-Ph)	cyclo-C6H11	C2H5
A-1062	CH(CH3)Ph	cyclo-C6H11	C2H5
A-1063	CH3	(CH2)4	
A-1064	C2H5	(CH2)4	
A-1065	n-C3H7	(CH2)4	
A-1066	i-C3H7	(CH2)4	
A-1067	n-C4H9	(CH2)4	
A-1068	s-C4H9	(CH2)4	
A-1069	n-C5H11	(CH2)4	
A-1070	n-C6H13	(CH2)4	
A-1071	CH2CH=CH2	(CH2)4	
A-1072	CH2C(CH3)=CH2	(CH2)4	
A-1073	CH2C(CH3)=CHCH3	(CH2)4	
A-1074	CH2CH=C(CH3)2	(CH2)4	
A-1075	CH2CCl=CH2	(CH2)4	
A-1076	CH2CH=CCl2	(CH2)4	
A-1077	CH2CH=CHCF3	(CH2)4	
A-1078	CH(CH3)CH=CH2	(CH2)4	
A-1079	CH2CCCH3	(CH2)4	
A-1080	CH2CF3	(CH2)4	
A-1081	CH2CH2OCH3	(CH2)4	
A-1082	CH2CH2OC2H5	(CH2)4	
A-1083	CH2CH2CH2OCH3	(CH2)4	
A-1084	CH2CH2CH2OC2H5	(CH2)4	
A-1085	CH2CH(OCH3)2	(CH2)4	
A-1086	CH2CO2CH3	(CH2)4	
A-1087	CH2CO2C2H5	(CH2)4	
A-1088	CH(CH3)CO2CH3	(CH2)4	

Compound	R^1	R^2	R^3
A-1089	CH(CH3)CO2C2H5	(CH2)4	
A-1090	C(CH3)2CO2CH3	(CH2)4	
A-1091	C(CH3)2CO2C2H5	(CH2)4	
A-1092	CH2Ph	(CH2)4	
A-1093	CH2(2-Cl-Ph)	(CH2)4	
A-1094	CH2(3-Cl-Ph)	(CH2)4	
A-1095	CH2(4-Cl-Ph)	(CH2)4	
A-1096	CH2(2-CF3-Ph)	(CH2)4	
A-1097	CH2(3-CF3-Ph)	(CH2)4	
A-1098	CH2(4-CF3-Ph)	(CH2)4	
A-1099	CH(CH3)Ph	(CH2)4	
A-1100	CH3	(CH2)5	
A-1101	C2H5	(CH2)5	
A-1102	n-C3H7	(CH2)5	
A-1103	i-C3H7	(CH2)5	
A-1104	n-C4H9	(CH2)5	
A-1105	s-C4H9	(CH2)5	
A-1106	n-C5H11	(CH2)5	
A-1107	n-C6H13	(CH2)5	
A-1108	CH2CH=CH2	(CH2)5	
A-1109	CH2C(CH3)=CH2	(CH2)5	
A-1110	CH2C(CH3)=CHCH3	(CH2)5	
A-1111	CH2CH=C(CH3)2	(CH2)5	
A-1112	CH2CCl=CH2	(CH2)5	
A-1113	CH2CH=CCl2	(CH2)5	
A-1114	CH2CH=CHCF3	(CH2)5	
A-1115	CH(CH3)CH=CH2	(CH2)5	
A-1116	CH2CCCH3	(CH2)5	
A-1117	CH2CF3	(CH2)5	
A-1118	CH2CH2OCH3	(CH2)5	
A-1119	CH2CH2OC2H5	(CH2)5	
A-1120	CH2CH2CH2OCH3	(CH2)5	
A-1121	CH2CH2CH2OC2H5	(CH2)5	
A-1122	CH2CH(OCH3)2	(CH2)5	
A-1123	CH2CO2CH3	(CH2)5	
A-1124	CH2CO2C2H5	(CH2)5	
A-1125	CH(CH3)CO2CH3	(CH2)5	
A-1126	CH(CH3)CO2C2H5	(CH2)5	
A-1127	C(CH3)2CO2CH3	(CH2)5	
A-1128	C(CH3)2CO2C2H5	(CH2)5	
A-1129	CH2Ph	(CH2)5	
A-1130	CH2(2-Cl-Ph)	(CH2)5	
A-1131	CH2(3-Cl-Ph)	(CH2)5	

Compound	R^1	R^2	R^3
A-1132	CH2(4-Cl-Ph)	(CH2)5	
A-1133	CH2(2-CF3-Ph)	(CH2)5	
A-1134	CH2(3-CF3-Ph)	(CH2)5	
A-1135	CH2(4-CF3-Ph)	(CH2)5	
A-1136	CH(CH3)Ph	(CH2)5	
A-1137	CH3	CH2CH2OCH2CH2	
A-1138	C2H5	CH2CH2OCH2CH2	
A-1139	n-C3H7	CH2CH2OCH2CH2	
A-1140	i-C3H7	CH2CH2OCH2CH2	
A-1141	n-C4H9	CH2CH2OCH2CH2	
A-1142	s-C4H9	CH2CH2OCH2CH2	
A-1143	n-C5H11	CH2CH2OCH2CH2	
A-1144	n-C6H13	CH2CH2OCH2CH2	
A-1145	CH2CH=CH2	CH2CH2OCH2CH2	
A-1146	CH2C(CH3)=CH2	CH2CH2OCH2CH2	
A-1147	CH2C(CH3)=CHCH3	CH2CH2OCH2CH2	
A-1148	CH2CH=C(CH3)2	CH2CH2OCH2CH2	
A-1149	CH2CCl=CH2	CH2CH2OCH2CH2	
A-1150	CH2CH=CCl2	CH2CH2OCH2CH2	
A-1151	CH2CH=CHCF3	CH2CH2OCH2CH2	
A-1152	CH(CH3)CH=CH2	CH2CH2OCH2CH2	
A-1153	CH2CCCH3	CH2CH2OCH2CH2	
A-1154	CH2CF3	CH2CH2OCH2CH2	
A-1155	CH2CH2OCH3	CH2CH2OCH2CH2	
A-1156	CH2CH2OC2H5	CH2CH2OCH2CH2	
A-1157	CH2CH2CH2OCH3	CH2CH2OCH2CH2	
A-1158	CH2CH2CH2OC2H5	CH2CH2OCH2CH2	
A-1159	CH2CH(OCH3)2	CH2CH2OCH2CH2	
A-1160	CH2CO2CH3	CH2CH2OCH2CH2	
A-1161	CH2CO2C2H5	CH2CH2OCH2CH2	
A-1162	CH(CH3)CO2CH3	CH2CH2OCH2CH2	
A-1163	CH(CH3)CO2C2H5	CH2CH2OCH2CH2	
A-1164	C(CH3)2CO2CH3	CH2CH2OCH2CH2	
A-1165	C(CH3)2CO2C2H5	CH2CH2OCH2CH2	
A-1166	CH2Ph	CH2CH2OCH2CH2	
A-1167	CH2(2-Cl-Ph)	CH2CH2OCH2CH2	
A-1168	CH2(3-Cl-Ph)	CH2CH2OCH2CH2	
A-1169	CH2(4-Cl-Ph)	CH2CH2OCH2CH2	
A-1170	CH2(2-CF3-Ph)	CH2CH2OCH2CH2	
A-1171	CH2(3-CF3-Ph)	CH2CH2OCH2CH2	
A-1172	CH2(4-CF3-Ph)	CH2CH2OCH2CH2	
A-1173	CH(CH3)Ph	CH2CH2OCH2CH2	
A-1174	CH3	CH2CH2SCH2CH2	

Compound	R^1	R^2	R^3
A-1175	C2H5	CH2CH2SCH2CH2	
A-1176	n-C3H7	CH2CH2SCH2CH2	
A-1177	i-C3H7	CH2CH2SCH2CH2	
A-1178	n-C4H9	CH2CH2SCH2CH2	
A-1179	s-C4H9	CH2CH2SCH2CH2	
A-1180	n-C5H11	CH2CH2SCH2CH2	
A-1181	n-C6H13	CH2CH2SCH2CH2	
A-1182	CH2CH=CH2	CH2CH2SCH2CH2	
A-1183	CH2C(CH3)=CH2	CH2CH2SCH2CH2	
A-1184	CH2C(CH3)=CHCH3	CH2CH2SCH2CH2	
A-1185	CH2CH=C(CH3)2	CH2CH2SCH2CH2	
A-1186	CH2CCl=CH2	CH2CH2SCH2CH2	
A-1187	CH2CH=CCl2	CH2CH2SCH2CH2	
A-1188	CH2CH=CHCF3	CH2CH2SCH2CH2	
A-1189	CH(CH3)CH=CH2	CH2CH2SCH2CH2	
A-1190	CH2CCCH3	CH2CH2SCH2CH2	
A-1191	CH2CF3	CH2CH2SCH2CH2	
A-1192	CH2CH2OCH3	CH2CH2SCH2CH2	
A-1193	CH2CH2OC2H5	CH2CH2SCH2CH2	
A-1194	CH2CH2CH2OCH3	CH2CH2SCH2CH2	
A-1195	CH2CH2CH2OC2H5	CH2CH2SCH2CH2	
A-1196	CH2CH(OCH3)2	CH2CH2SCH2CH2	
A-1197	CH2CO2CH3	CH2CH2SCH2CH2	
A-1198	CH2CO2C2H5	CH2CH2SCH2CH2	
A-1199	CH(CH3)CO2CH3	CH2CH2SCH2CH2	
A-1200	CH(CH3)CO2C2H5	CH2CH2SCH2CH2	
A-1201	C(CH3)2CO2CH3	CH2CH2SCH2CH2	
A-1202	C(CH3)2CO2C2H5	CH2CH2SCH2CH2	
A-1203	CH2Ph	CH2CH2SCH2CH2	
A-1204	CH2(2-Cl-Ph)	CH2CH2SCH2CH2	
A-1205	CH2(3-Cl-Ph)	CH2CH2SCH2CH2	
A-1206	CH2(4-Cl-Ph)	CH2CH2SCH2CH2	
A-1207	CH2(2-CF3-Ph)	CH2CH2SCH2CH2	
A-1208	CH2(3-CF3-Ph)	CH2CH2SCH2CH2	
A-1209	CH2(4-CF3-Ph)	CH2CH2SCH2CH2	
A-1210	CH(CH3)Ph	CH2CH2SCH2CH2	
A-1211	n-C3H7	OCH3	H
A-1212	i-C3H7	OCH3	H
A-1213	CH2CH=CH2	OCH3	H
A-1214	CH2C(CH3)=CH2	OCH3	H
A-1215	CH2C(CH3)=CHCH3	OCH3	H
A-1216	CH2CH=C(CH3)2	OCH3	H
A-1217	CH2Ph	OCH3	H

Compound	R^1	R^2	R^3
A-1218	CH2(3-CF3-Ph)	OCH3	H
A-1219	n-C3H7	OC2H5	H
A-1220	i-C3H7	OC2H5	H
A-1221	CH2CH=CH2	OC2H5	H
A-1222	CH2C(CH3)=CH2	OC2H5	H
A-1223	CH2C(CH3)=CHCH3	OC2H5	H
A-1224	CH2CH=C(CH3)2	OC2H5	H
A-1225	CH2Ph	OC2H5	H
A-1226	CH2(3-CF3-Ph)	OC2H5	H
A-1227	n-C3H7	O(i-C3H7)	H
A-1228	i-C3H7	O(i-C3H7)	H
A-1229	CH2CH=CH2	O(i-C3H7)	H
A-1230	CH2C(CH3)=CH2	O(i-C3H7)	H
A-1231	CH2C(CH3)=CHCH3	O(i-C3H7)	H
A-1232	CH2CH=C(CH3)2	O(i-C3H7)	H
A-1233	CH2Ph	O(i-C3H7)	H
A-1234	CH2(3-CF3-Ph)	O(i-C3H7)	H
A-1235	n-C3H7	O(t-C4H9)	H
A-1236	i-C3H7	O(t-C4H9)	H
A-1237	CH2CH=CH2	O(t-C4H9)	H
A-1238	CH2C(CH3)=CH2	O(t-C4H9)	H
A-1239	CH2C(CH3)=CHCH3	O(t-C4H9)	H
A-1240	CH2CH=C(CH3)2	O(t-C4H9)	H
A-1241	CH2Ph	O(t-C4H9)	H
A-1242	CH2(3-CF3-Ph)	O(t-C4H9)	H
A-1243	n-C3H7	OCH3	CH3
A-1244	i-C3H7	OCH3	CH3
A-1245	CH2CH=CH2	OCH3	CH3
A-1246	CH2C(CH3)=CH2	OCH3	CH3
A-1247	CH2C(CH3)=CHCH3	OCH3	CH3
A-1248	CH2CH=C(CH3)2	OCH3	CH3
A-1249	CH2CO2CH3	OCH3	CH3
A-1250	CH(CH3)CO2CH3	OCH3	CH3
A-1251	C(CH3)2CO2CH3	OCH3	CH3
A-1252	CH2Ph	OCH3	CH3
A-1253	CH2(3-CF3-Ph)	OCH3	CH3
A-1254	n-C3H7	OCH2Ph	H
A-1255	i-C3H7	OCH2Ph	H
A-1256	CH2CH=CH2	OCH2Ph	H
A-1257	CH2C(CH3)=CH2	OCH2Ph	H
A-1258	CH2C(CH3)=CHCH3	OCH2Ph	H
A-1259	CH2CH=C(CH3)2	OCH2Ph	H
A-1260	CH2CO2CH3	OCH2Ph	H

Compound	R^1	R^2	R^3
A-1261	CH(CH3)CO2CH3	OCH2Ph	H
A-1262	C(CH3)2CO2CH3	OCH2Ph	H
A-1263	CH2Ph	OCH2Ph	H
A-1264	CH2(3-CF3-Ph)	OCH2Ph	H
A-1265	n-C3H7	Ph	H
A-1266	i-C3H7	Ph	H
A-1267	CH2CH=CH2	Ph	H
A-1268	CH2C(CH3)=CH2	Ph	H
A-1269	CH2C(CH3)=CHCH3	Ph	H
A-1270	CH2CH=C(CH3)2	Ph	H
A-1271	CH2Ph	Ph	H
A-1272	CH2(3-CF3-Ph)	Ph	H
A-1273	n-C3H7	4-Cl-Ph	H
A-1274	i-C3H7	4-Cl-Ph	H
A-1275	CH2CH=CH2	4-Cl-Ph	H
A-1276	CH2C(CH3)=CH2	4-Cl-Ph	H
A-1277	CH2C(CH3)=CHCH3	4-Cl-Ph	H
A-1278	CH2CH=C(CH3)2	4-Cl-Ph	H
A-1279	CH2Ph	4-Cl-Ph	H
A-1280	CH2(3-CF3-Ph)	4-Cl-Ph	H
A-1281	n-C3H7	4-CH3O-Ph	H
A-1282	i-C3H7	4-CH3O-Ph	H
A-1283	CH2CH=CH2	4-CH3O-Ph	H
A-1284	CH2C(CH3)=CH2	4-CH3O-Ph	H
A-1285	CH2C(CH3)=CHCH3	4-CH3O-Ph	H
A-1286	CH2CH=C(CH3)2	4-CH3O-Ph	H
A-1287	CH2Ph	4-CH3O-Ph	H
A-1288	CH2(3-CF3-Ph)	4-CH3O-Ph	H
A-1289	n-C3H7	4-CF3CH2O-Ph	H
A-1290	i-C3H7	4-CF3CH2O-Ph	H
A-1291	CH2CH=CH2	4-CF3CH2O-Ph	H
A-1292	CH2C(CH3)=CH2	4-CF3CH2O-Ph	H
A-1293	CH2C(CH3)=CHCH3	4-CF3CH2O-Ph	H
A-1294	CH2CH=C(CH3)2	4-CF3CH2O-Ph	H
A-1295	CH2Ph	4-CF3CH2O-Ph	H
A-1296	CH2(3-CF3-Ph)	4-CF3CH2O-Ph	H
A-1297	n-C3H7	4-PhO-Ph	H
A-1298	i-C3H7	4-PhO-Ph	H
A-1299	CH2CH=CH2	4-PhO-Ph	H
A-1300	CH2C(CH3)=CH2	4-PhO-Ph	H
A-1301	CH2C(CH3)=CHCH3	4-PhO-Ph	H
A-1302	CH2CH=C(CH3)2	4-PhO-Ph	H
A-1303	CH2Ph	4-PhO-Ph	H

Compound	R^1	R^2	R^3
A-1304	CH2(3-CF3-Ph)	4-PhO-Ph	H
A-1305	n-C3H7	4-(4-Cl-Ph)O-Ph	H
A-1306	i-C3H7	4-(4-Cl-Ph)O-Ph	H
A-1307	CH2CH=CH2	4-(4-Cl-Ph)O-Ph	H
A-1308	CH2C(CH3)=CH2	4-(4-Cl-Ph)O-Ph	H
A-1309	CH2C(CH3)=CHCH3	4-(4-Cl-Ph)O-Ph	H
A-1310	CH2CH=C(CH3)2	4-(4-Cl-Ph)O-Ph	H
A-1311	CH2Ph	4-(4-Cl-Ph)O-Ph	H
A-1312	CH2(3-CF3-Ph)	4-(4-Cl-Ph)O-Ph	H
A-1313	n-C3H7	4-(4-CF3-Ph)O-Ph	H
A-1314	i-C3H7	4-(4-CF3-Ph)O-Ph	H
A-1315	CH2CH=CH2	4-(4-CF3-Ph)O-Ph	H
A-1316	CH2C(CH3)=CH2	4-(4-CF3-Ph)O-Ph	H
A-1317	CH2C(CH3)=CHCH3	4-(4-CF3-Ph)O-Ph	H
A-1318	CH2CH=C(CH3)2	4-(4-CF3-Ph)O-Ph	H
A-1319	CH2Ph	4-(4-CF3-Ph)O-Ph	H
A-1320	CH2(3-CF3-Ph)	4-(4-CF3-Ph)O-Ph	H
A-1321	CH3	Ph	CH3
A-1322	C2H5	Ph	CH3
A-1323	n-C3H7	Ph	CH3
A-1324	i-C3H7	Ph	CH3
A-1325	CH2CH=CH2	Ph	CH3
A-1326	CH2C(CH3)=CH2	Ph	CH3
A-1327	CH2C(CH3)=CHCH3	Ph	CH3
A-1328	CH2CH=C(CH3)2	Ph	CH3
A-1329	CH2CO2CH3	Ph	CH3
A-1330	CH(CH3)CO2CH3	Ph	CH3
A-1331	C(CH3)2CO2CH3	Ph	CH3
A-1332	CH2Ph	Ph	CH3
A-1333	CH2(3-CF3-Ph)	Ph	CH3
A-1334	n-C3H7	Ph	C2H5
A-1335	i-C3H7	Ph	C2H5
A-1336	CH2CH=CH2	Ph	C2H5
A-1337	CH2C(CH3)=CH2	Ph	C2H5
A-1338	CH2C(CH3)=CHCH3	Ph	C2H5
A-1339	CH2CH=C(CH3)2	Ph	C2H5
A-1340	CH2CO2CH3	Ph	C2H5
A-1341	CH(CH3)CO2CH3	Ph	C2H5
A-1342	C(CH3)2CO2CH3	Ph	C2H5
A-1343	CH2Ph	Ph	C2H5
A-1344	CH2(3-CF3-Ph)	Ph	C2H5
A-1345	n-C3H7	Ph	i-C3H7
A-1346	i-C3H7	Ph	i-C3H7

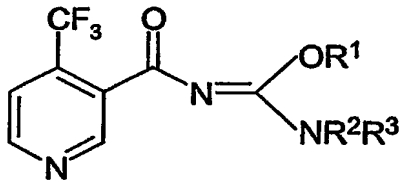
Compound	R^1	R^2	R^3
A-1347	CH2CH=CH2	Ph	i-C3H7
A-1348	CH2C(CH3)=CH2	Ph	i-C3H7
A-1349	CH2C(CH3)=CHCH3	Ph	i-C3H7
A-1350	CH2CH=C(CH3)2	Ph	i-C3H7
A-1351	CH2CO2CH3	Ph	i-C3H7
A-1352	CH(CH3)CO2CH3	Ph	i-C3H7
A-1353	C(CH3)2CO2CH3	Ph	i-C3H7
A-1354	CH2Ph	Ph	i-C3H7
A-1355	CH2(3-CF3-Ph)	Ph	i-C3H7
A-1356	CH2CH=CH2	4-Cl-Ph	CH3
A-1357	CH2Ph	4-Cl-Ph	CH3
A-1358	CH2CH=CH2	4-CH3O-Ph	CH3
A-1359	CH2Ph	4-CH3O-Ph	CH3
A-1360	CH2CH=CH2	4-(4-Cl-Ph)O-Ph	CH3
A-1361	CH2Ph	4-(4-Cl-Ph)O-Ph	CH3
A-1362	CH2CH=CH2	4-(4-CF3-Ph)O-Ph	CH3
A-1363	CH2Ph	4-(4-CF3-Ph)O-Ph	CH3
A-1364	CH2CH=CH2	4-CF3-Ph	CH3
A-1365	CH2CH=CH2	4-CF3O-Ph	CH3
A-1366	CH2CH=CH2	4-CF3S-Ph	CH3
A-1367	CH2CH=CH2	4-CF3CH2O-Ph	CH3
A-1368	n-C3H7	2-thiazolyl	H
A-1369	i-C3H7	2-thiazolyl	H
A-1370	CH2CH=CH2	2-thiazolyl	H
A-1371	CH2C(CH3)=CH2	2-thiazolyl	H
A-1372	CH2C(CH3)=CHCH3	2-thiazolyl	H
A-1373	CH2CH=C(CH3)2	2-thiazolyl	H
A-1374	CH2CO2CH3	2-thiazolyl	H
A-1375	CH(CH3)CO2CH3	2-thiazolyl	H
A-1376	C(CH3)2CO2CH3	2-thiazolyl	H
A-1377	CH2Ph	2-thiazolyl	H
A-1378	CH2(3-CF3-Ph)	2-thiazolyl	H
A-1379	n-C3H7	1,2,3-thiadiazol-2yl	H
A-1380	i-C3H7	1,2,3-thiadiazol-2yl	H
A-1381	CH2CH=CH2	1,2,3-thiadiazol-2yl	H
A-1382	CH2C(CH3)=CH2	1,2,3-thiadiazol-2yl	H
A-1383	CH2C(CH3)=CHCH3	1,2,3-thiadiazol-2yl	H
A-1384	CH2CH=C(CH3)2	1,2,3-thiadiazol-2yl	H
A-1385	CH2CO2CH3	1,2,3-thiadiazol-2yl	H
A-1386	CH(CH3)CO2CH3	1,2,3-thiadiazol-2yl	H
A-1387	C(CH3)2CO2CH3	1,2,3-thiadiazol-2yl	H
A-1388	CH2Ph	1,2,3-thiadiazol-2yl	H
A-1389	CH2(3-CF3-Ph)	1,2,3-thiadiazol-2yl	H

Compound	R^1	R^2	R^3
A-1390	n-C3H7	NH2	CH3
A-1391	i-C3H7	NH2	CH3
A-1392	CH2CH=CH2	NH2	CH3
A-1393	CH2C(CH3)=CH2	NH2	CH3
A-1394	CH2C(CH3)=CHCH3	NH2	CH3
A-1395	CH2CH=C(CH3)2	NH2	CH3
A-1396	CH2Ph	NH2	CH3
A-1397	CH2(3-CF3-Ph)	NH2	CH3
A-1398	n-C3H7	NH2	i-C3H7
A-1399	i-C3H7	NH2	i-C3H7
A-1400	CH2CH=CH2	NH2	i-C3H7
A-1401	CH2C(CH3)=CH2	NH2	i-C3H7
A-1402	CH2C(CH3)=CHCH3	NH2	i-C3H7
A-1403	CH2CH=C(CH3)2	NH2	i-C3H7
A-1404	CH2Ph	NH2	i-C3H7
A-1405	CH2(3-CF3-Ph)	NH2	i-C3H7
A-1406	n-C3H7	NH2	CH2Ph
A-1407	i-C3H7	NH2	CH2Ph
A-1408	CH2CH=CH2	NH2	CH2Ph
A-1409	CH2C(CH3)=CH2	NH2	CH2Ph
A-1410	CH2C(CH3)=CHCH3	NH2	CH2Ph
A-1411	CH2CH=C(CH3)2	NH2	CH2Ph
A-1412	CH2Ph	NH2	CH2Ph
A-1413	CH2(3-CF3-Ph)	NH2	CH2Ph
A-1414	n-C3H7	NHCOCH3	CH3
A-1415	i-C3H7	NHCOCH3	CH3
A-1416	CH2CH=CH2	NHCOCH3	CH3
A-1417	CH2C(CH3)=CH2	NHCOCH3	CH3
A-1418	CH2C(CH3)=CHCH3	NHCOCH3	CH3
A-1419	CH2CH=C(CH3)2	NHCOCH3	CH3
A-1420	CH2Ph	NHCOCH3	CH3
A-1421	CH2(3-CF3-Ph)	NHCOCH3	CH3
A-1422	n-C3H7	NHCOPh	CH3
A-1423	i-C3H7	NHCOPh	CH3
A-1424	CH2CH=CH2	NHCOPh	CH3
A-1425	CH2C(CH3)=CH2	NHCOPh	CH3
A-1426	CH2C(CH3)=CHCH3	NHCOPh	CH3
A-1427	CH2CH=C(CH3)2	NHCOPh	CH3
A-1428	CH2Ph	NHCOPh	CH3
A-1429	CH2(3-CF3-Ph)	NHCOPh	CH3
A-1430	CH3	N=C(CH3)2	Ph
A-1431	i-C3H7	N=C(CH3)2	Ph
A-1432	CH2CH=CH2	N=C(CH3)2	Ph

Compound	R^1	R^2	R^3
A-1433	CH2C(CH3)=CH2	N=C(CH3)2	Ph
A-1434	CH2CCH	N=C(CH3)2	Ph
A-1435	CH2Ph	N=C(CH3)2	Ph
A-1436	CH3	3-CF3Ph	H
A-1437	CH2CH=CH2	3-CF3Ph	H
A-1438	CH2Ph	3-CF3Ph	H

Table 2

Compounds of formula (Ib):



(Ib)

Compound	R^1	R^2	R^3
B-1	CH3	CH3	H
B-2	CH3	CH3	CH3
B-3	CH3	C2H5	H
B-4	CH3	C2H5	C2H5
B-5	CH3	n-C3H7	H
B-6	CH3	i-C3H7	H
B-7	CH3	i-C3H7	CH3
B-8	CH3	i-C3H7	C2H5
B-9	CH3	n-C4H9	H
B-10	CH3	n-C4H9	CH3
B-11	CH3	s-C4H9	H
B-12	CH3	i-C4H9	H
B-13	CH3	t-C4H9	H
B-14	CH3	n-C5H11	H
B-15	CH3	n-C6H13	H
B-16	CH3	CH2CH(C2H5)2	H
B-17	CH3	CH(CH3)CH2CH2CH(CH3)CH3	H
B-18	CH3	CH2CH=CH2	H
B-19	CH3	CH2CH=CH2	CH3
B-20	CH3	CH2C(CH3)=CH2	H
B-21	CH3	CH2C(CH3)=CHCH3	H
B-22	CH3	CH2CH=C(CH3)2	H
B-23	CH3	CH2CCl=CH2	H
B-24	CH3	CH2CH=CCl2	H
B-25	CH3	CH2CH=CHCF3	H

Compound	R^1	R^2	R^3
B-26	CH3	CH2CH=CHPh	H
B-27	CH3	CH(CH3)CH=CH2	H
B-28	CH3	CH2CCH	H
B-29	CH3	CH2CCCH3	H
B-30	CH3	CH2CF3	H
B-31	CH3	CH2OCH3	H
B-32	CH3	CH2CH2OC2H5	H
B-33	CH3	CH2CH2CH2OCH3	H
B-34	CH3	CH2CH2OPh	H
B-35	CH3	CH(OCH3)C2H5	H
B-36	CH3	CH2CH(OCH3)2	H
B-37	CH3	CH2CH(OCH3)2	CH3
B-38	CH3	(CH2)5CN	H
B-39	CH3	CH2CH2CN	H
B-40	CH3	CH2CH2CN	CH3
B-41	CH3	cyclo-C3H5	H
B-42	CH3	cyclo-C6H11	H
B-43	CH3	cyclo-C6H11	CH3
B-44	CH3	CH2(cyclo-C3H5)	H
B-45	CH3	CH2(cyclo-C5H9)	H
B-46	CH3	CH2(cyclo-C6H11)	H
B-47	CH3	CH2Ph	H
B-48	CH3	CH2Ph	CH3
B-49	CH3	CH2Ph	i-C3H7
B-50	CH3	CH2(2-Cl-Ph)	H
B-51	CH3	CH2(3-Cl-Ph)	H
B-52	CH3	CH2(4-Cl-Ph)	H
B-53	CH3	CH2(2-CF3-Ph)	H
B-54	CH3	CH2(3-CF3-Ph)	H
B-55	CH3	CH2(4-CF3-Ph)	H
B-56	CH3	CH2(2-F-Ph)	H
B-57	CH3	CH2(3-F-Ph)	H
B-58	CH3	CH2(4-F-Ph)	H
B-59	CH3	CH2(3-Me-Ph)	H
B-60	CH3	CH2(4-Me-Ph)	H
B-61	CH3	CH2(4-t-C4H9-Ph)	H
B-62	CH3	CH2(4-t-C4H9-Ph)	CH3
B-63	CH3	CH(CH3)Ph	H
B-64	CH3	CH(CH3)(2-Cl-Ph)	H
B-65	CH3	CH(CH3)(3-Cl-Ph)	H
B-66	CH3	CH(CH3)(4-Br-Ph)	H
B-67	CH3	CH(CH3)(4-Br-Ph)	H

Compound	R^1	R^2	R^3
B-68	CH3	CH2(2-thienyl)	H
B-69	CH3	CH2(2-pyridyl)	H
B-70	CH3	CH2CH2Ph	H
B-71	CH3	CH2CH2CH2CH2	
B-72	CH3	CH2CH2CH2CH2CH2	
B-73	CH3	CH2CH2CH(CO2C2H5)CH2CH2	
B-74	CH3	O(i-C3H7)	H
B-75	CH3	OCH2C(CH3)=CH2	H
B-76	CH3	O(2-tetrahydropyranyl)	H
B-77	CH3	OCH2(3,4-Cl2-Ph)	H
B-78	CH3	OCH2(2,4-Cl2-Ph)	H
B-79	CH3	OCH2(3-CF3-Ph)	H
B-80	CH3	OCH2(4-F-2-OCF3-Ph)	H
B-81	CH3	OCH2(2,5-(CF3)2-Ph)	H
B-82	CH3	(CH2)2N(CH3)2	H
B-83	CH3	(CH2)3N(CH3)2	H
B-84	CH3	(CH2)3(1-imidazolyl)	H
B-85	CH3	CH2(1-C2H5-2-pyrrolidinyl)	H
B-86	CH3	NH(2-CF3-Ph)	H
B-87	CH3	NH(4-Cl-Ph)	H
B-88	CH3	N(CH3)2	H
B-89	C2H5	CH3	H
B-90	C2H5	CH3	CH3
B-91	C2H5	C2H5	H
B-92	C2H5	C2H5	C2H5
B-93	C2H5	n-C3H7	H
B-94	C2H5	i-C3H7	H
B-95	C2H5	n-C4H9	H
B-96	C2H5	s-C4H9	H
B-97	C2H5	i-C4H9	H
B-98	C2H5	t-C4H9	H
B-99	C2H5	n-C5H11	H
B-100	C2H5	n-C6H13	H
B-101	C2H5	CH2CH(C2H5)2	H
B-102	C2H5	CH(CH3)CH2CH2CH(CH3)CH3	H
B-103	C2H5	CH2CH=CH2	H
B-104	C2H5	CH2CH=CH2	CH3
B-105	C2H5	CH2C(CH3)=CH2	H
B-106	C2H5	CH2C(CH3)=CHCH3	H
B-107	C2H5	CH2CH=C(CH3)2	H
B-108	C2H5	CH2CCl=CH2	H
B-109	C2H5	CH2CH=CCl2	H

Compound	R^1	R^2	R^3
B-110	C2H5	CH2CH=CHCF3	H
B-111	C2H5	CH2CH=CHPh	H
B-112	C2H5	CH(CH3)CH=CH2	H
B-113	C2H5	CH2CCH	H
B-114	C2H5	CH2CCH	CH3
B-115	C2H5	CH2CCCH3	H
B-116	C2H5	CH2CF3	H
B-117	C2H5	CH2CH2OCH3	H
B-118	C2H5	CH2CH2OC2H5	H
B-119	C2H5	CH2CH2CH2OCH3	H
B-120	C2H5	CH2CH2CH2OC2H5	H
B-121	C2H5	CH(OCH3)C2H5	H
B-122	C2H5	CH2CH(OCH3)2	H
B-123	C2H5	CH2CH(OCH3)2	CH3
B-124	C2H5	(CH2)5CN	H
B-125	C2H5	cyclo-C3H5	H
B-126	C2H5	cyclo-C6H11	H
B-127	C2H5	CH2(cyclo-C3H5)	H
B-128	C2H5	CH2(cyclo-C5H9)	H
B-129	C2H5	CH2(cyclo-C6H11)	H
B-130	C2H5	CH2Ph	H
B-131	C2H5	CH2(2-Cl-Ph)	H
B-132	C2H5	CH2(3-Cl-Ph)	H
B-133	C2H5	CH2(4-Cl-Ph)	H
B-134	C2H5	CH2(2-CF3-Ph)	H
B-135	C2H5	CH2(3-CF3-Ph)	H
B-136	C2H5	CH2(4-CF3-Ph)	H
B-137	C2H5	CH2(2-F-Ph)	H
B-138	C2H5	CH2(3-F-Ph)	H
B-139	C2H5	CH2(4-F-Ph)	H
B-140	C2H5	CH2(3-Me-Ph)	H
B-141	C2H5	CH2(4-Me-Ph)	H
B-142	C2H5	CH(CH3)Ph	H
B-143	C2H5	CH(CH3)(2-Cl-Ph)	H
B-144	C2H5	CH(CH3)(3-Cl-Ph)	H
B-145	C2H5	CH(CH3)(4-Cl-Ph)	H
B-146	C2H5	CH(CH3)(2-CF3-Ph)	H
B-147	C2H5	CH(CH3)(3-CF3-Ph)	H
B-148	C2H5	CH(CH3)(4-CF3-Ph)	H
B-149	C2H5	CH2CH2Ph	H
B-150	C2H5	CH2(2-thienyl)	H
B-151	C2H5	CH2(2-furanyl)	H

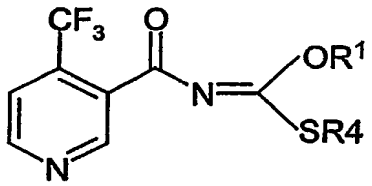
Compound	R^1	R^2	R^3
B-152	C2H5	OCH2C(CH3)=CH2	H
B-153	C2H5	O(2-tetrahydropyranyl)	H
B-154	C2H5	OCH2(3,4-Cl2-Ph)	H
B-155	C2H5	OCH2(2,4-Cl2-Ph)	H
B-156	C2H5	OCH2(3-CF3-Ph)	H
B-157	C2H5	OCH2(4-F-2-CF3-Ph)	H
B-158	C2H5	OCH2(2,5-(CF3)2-Ph)	H
B-159	C2H5	(CH2)2N(CH3)2	H
B-160	C2H5	(CH2)3N(CH3)2	H
B-161	C2H5	(CH2)3(1-imidazolyl)	H
B-162	C2H5	CH2(1-C2H5-2-pyrrolidynyl)	H
B-163	C2H5	NH(2-CF3-Ph)	H
B-164	C2H5	NH(4-Cl-Ph)	H
B-165	C2H5	N(CH3)2	H
B-166	i-C3H7	CH3	H
B-167	i-C3H7	CH3	CH3
B-168	i-C3H7	C2H5	H
B-169	i-C3H7	C2H5	C2H5
B-170	i-C3H7	n-C3H7	H
B-171	i-C3H7	i-C3H7	H
B-172	i-C3H7	n-C4H9	H
B-173	i-C3H7	s-C4H9	H
B-174	i-C3H7	i-C4H9	H
B-175	i-C3H7	t-C4H9	H
B-176	i-C3H7	n-C5H11	H
B-177	i-C3H7	n-C6H13	H
B-178	i-C3H7	CH2CH(C2H5)2	H
B-179	i-C3H7	CH(CH3)CH2CH2CH(CH3)CH3	H
B-180	i-C3H7	CH2CH=CH2	H
B-181	i-C3H7	CH2CH=CH2	CH3
B-182	i-C3H7	CH2C(CH3)=CH2	H
B-183	i-C3H7	CH2C(CH3)=CHCH3	H
B-184	i-C3H7	CH2CH=C(CH3)2	H
B-185	i-C3H7	CH2CCl=CH2	H
B-186	i-C3H7	CH2CH=CCl2	H
B-187	i-C3H7	CH2CH=CHCF3	H
B-188	i-C3H7	CH2CH=CHPh	H
B-189	i-C3H7	CH(CH3)CH=CH2	H
B-190	i-C3H7	CH2CCH	H
B-191	i-C3H7	CH2CCH	CH3
B-192	i-C3H7	CH2CCCH3	H
B-193	i-C3H7	CH2CF3	H

Compound	R^1	R^2	R^3
B-194	i-C3H7	CH2CH2OCH3	H
B-195	i-C3H7	CH2CH2OC2H5	H
B-196	i-C3H7	CH2CH2CH2OCH3	H
B-197	i-C3H7	CH2CH2CH2OC2H5	H
B-198	i-C3H7	CH(OCH3)C2H5	H
B-199	i-C3H7	CH2CH(OCH3)2	H
B-200	i-C3H7	CH2CH(OCH3)2	CH3
B-201	i-C3H7	(CH2)5CN	H
B-202	i-C3H7	CH2CH2CN	H
B-203	i-C3H7	CH2CH2CN	CH3
B-204	i-C3H7	CH2CH2CN	C2H5
B-205	i-C3H7	cyclo-C3H5	H
B-206	i-C3H7	cyclo-C6H11	H
B-207	i-C3H7	CH2(cyclo-C3H5)	H
B-208	i-C3H7	CH2(cyclo-C5H9)	H
B-209	i-C3H7	CH2(cyclo-C6H11)	H
B-210	i-C3H7	CH2Ph	H
B-211	i-C3H7	CH2(2-Cl-Ph)	H
B-212	i-C3H7	CH2(3-Cl-Ph)	H
B-213	i-C3H7	CH2(4-Cl-Ph)	H
B-214	i-C3H7	CH2(2-CF3-Ph)	H
B-215	i-C3H7	CH2(3-CF3-Ph)	H
B-216	i-C3H7	CH2(4-CF3-Ph)	H
B-217	i-C3H7	CH2(2-F-Ph)	H
B-218	i-C3H7	CH2(3-F-Ph)	H
B-219	i-C3H7	CH2(4-F-Ph)	H
B-220	i-C3H7	CH2(3-Me-Ph)	H
B-221	i-C3H7	CH2(4-Me-Ph)	H
B-222	i-C3H7	CH(CH3)Ph	H
B-223	i-C3H7	CH(CH3)(2-Cl-Ph)	H
B-224	i-C3H7	CH(CH3)(3-Cl-Ph)	H
B-225	i-C3H7	CH(CH3)(4-Cl-Ph)	H
B-226	i-C3H7	CH(CH3)(2-CF3-Ph)	H
B-227	i-C3H7	CH(CH3)(3-CF3-Ph)	H
B-228	i-C3H7	CH(CH3)(4-CF3-Ph)	H
B-229	i-C3H7	CH2CH2Ph	H
B-230	i-C3H7	CH2(2-thienyl)	H
B-231	i-C3H7	CH2(2-furanyl)	H
B-232	i-C3H7	OCH2C(CH3)=CH2	H
B-233	i-C3H7	O(2-tetrahydropyranyl)	H
B-234	i-C3H7	OCH2(3,4-Cl2-Ph)	H
B-235	i-C3H7	OCH2(2,4-Cl2-Ph)	H

Compound	R^1	R^2	R^3
B-236	i-C3H7	OCH2(3-CF3-Ph)	H
B-237	i-C3H7	OCH2(4-F-2-CF3-Ph)	H
B-238	i-C3H7	OCH2((CF3)2-Ph)	H
B-239	i-C3H7	(CH2)2N(CH3)2	H
B-240	i-C3H7	(CH2)3N(CH3)2	H
B-241	i-C3H7	(CH2)3(1-imidazolyl)	H
B-242	i-C3H7	CH2(1-C2H5-2-pyrrolidinyl)	H
B-243	i-C3H7	NH(2-CF3-Ph)	H
B-244	i-C3H7	NH(4-Cl-Ph)	H
B-245	i-C3H7	N(CH3)2	H
B-246	CH3	NH(3-CF3-Ph)	H
B-247	(CH2)3SCH3	CH2CH2N(CH3)2	H
B-248	(CH2)3SCH3	CH2CCH	H
B-249	CH3	OCH2(6-F-benzo-1,3-dioxan-4-yl)	H
B-250	CH3	OCH2(4-F-2-CF3-Ph)	H
B-251	CH3	OCH2(2-OCF3-Ph)	H
B-252	CH3	CH(CH3)(4-Cl-Ph)	H
B-253	CH3	CH2CCH	CH3
B-254	CH3	CH2(1,3-benzodioxolan-5-yl)	H
B-255	CH3	CH2CH(C2H5)2	H
B-256	CH3	CH2(2-furyl)	H

Table 3

Compounds of formula (Ic):



(Ic)

Compound	R^4	R^1
C-1	CH2CH=CH2	CH3
C-2	CH2C(CH3)=CH2	CH3
C-3	CH2C(CH3)=CHCH3	CH3
C-4	CH2CH=C(CH3)2	CH3
C-5	CH2CCl=CH2	CH3
C-6	CH2CH=CCl2	CH3
C-7	CH2CH=CHCF3	CH3
C-8	CH2CH=CHPh	CH3
C-9	CH(CH3)CH=CH2	CH3
C-10	CH2CCH	CH3

Compound	R^4	R^1
C-11	CH2CCCH3	CH3
C-12	CH2CF3	CH3
C-13	CH2CH2OCH3	CH3
C-14	CH2CH2OC2H5	CH3
C-15	CH2CH2CH2OCH3	CH3
C-16	CH2CH2CH2OC2H5	CH3
C-17	CH2CH(OCH3)2	CH3
C-18	CH2CN	CH3
C-19	CH2(cyclo-C3H5)	CH3
C-20	CH2(cyclo-C5H9)	CH3
C-21	CH2(cyclo-C6H11)	CH3
C-22	CH2Ph	CH3
C-23	CH2(2-Cl-Ph)	CH3
C-24	CH2(3-Cl-Ph)	CH3
C-25	CH2(4-Cl-Ph)	CH3
C-26	CH2(2-CF3-Ph)	CH3
C-27	CH2(3-CF3-Ph)	CH3
C-28	CH2(4-CF3-Ph)	CH3
C-29	CH2(2-F-Ph)	CH3
C-30	CH2(3-F-Ph)	CH3
C-31	CH2(4-F-Ph)	CH3
C-32	CH2(2-OMe-Ph)	CH3
C-33	CH2(3-OMe-Ph)	CH3
C-34	CH2(4-OMe-Ph)	CH3
C-35	CH(CH3)Ph	CH3
C-36	CH(CH3)(2-Cl-Ph)	CH3
C-37	CH(CH3)(3-Cl-Ph)	CH3
C-38	CH(CH3)(4-Cl-Ph)	CH3
C-39	CH(CH3)(2-CF3-Ph)	CH3
C-40	CH(CH3)(3-CF3-Ph)	CH3
C-41	CH(CH3)(4-CF3-Ph)	CH3
C-42	CH2CH2Ph	CH3
C-43	CH2CH=CH2	C2H5
C-44	CH2C(CH3)=CH2	C2H5
C-45	CH2C(CH3)=CHCH3	C2H5
C-46	CH2CH=C(CH3)2	C2H5
C-47	CH2CCl=CH2	C2H5
C-48	CH2CH=CCl2	C2H5
C-49	CH2CH=CHCF3	C2H5
C-50	CH2CH=CHPh	C2H5
C-51	CH(CH3)CH=CH2	C2H5
C-52	CH2CCH	C2H5

Compound	R^4	R^1
C-53	CH2CCCH3	C2H5
C-54	CH2CF3	C2H5
C-55	CH2CH2OCH3	C2H5
C-56	CH2CH2OC2H5	C2H5
C-57	CH2CH2CH2OCH3	C2H5
C-58	CH2CH2CH2OC2H5	C2H5
C-59	CH2CH(OCH3)2	C2H5
C-60	CH2CN	C2H5
C-61	CH2(cyclo-C3H5)	C2H5
C-62	CH2(cyclo-C5H9)	C2H5
C-63	CH2(cyclo-C6H11)	C2H5
C-64	CH2Ph	C2H5
C-65	CH2(2-Cl-Ph)	C2H5
C-66	CH2(3-Cl-Ph)	C2H5
C-67	CH2(4-Cl-Ph)	C2H5
C-68	CH2(2-CF3-Ph)	C2H5
C-69	CH2(3-CF3-Ph)	C2H5
C-70	CH2(4-CF3-Ph)	C2H5
C-71	CH2(2-F-Ph)	C2H5
C-72	CH2(3-F-Ph)	C2H5
C-73	CH2(4-F-Ph)	C2H5
C-74	CH2(2-OMe-Ph)	C2H5
C-75	CH2(3-OMe-Ph)	C2H5
C-76	CH2(4-OMe-Ph)	C2H5
C-77	CH(CH3)Ph	C2H5
C-78	CH(CH3)(2-Cl-Ph)	C2H5
C-79	CH(CH3)(3-Cl-Ph)	C2H5
C-80	CH(CH3)(4-Cl-Ph)	C2H5
C-81	CH(CH3)(2-CF3-Ph)	C2H5
C-82	CH(CH3)(3-CF3-Ph)	C2H5
C-83	CH(CH3)(4-CF3-Ph)	C2H5
C-84	CH2CH2Ph	C2H5
C-85	CH2CH=CH2	n-C3H7
C-86	CH2C(CH3)=CH2	n-C3H7
C-87	CH2C(CH3)=CHCH3	n-C3H7
C-88	CH2CH=C(CH3)2	n-C3H7
C-89	CH2CCl=CH2	n-C3H7
C-90	CH2CH=CCl2	n-C3H7
C-91	CH2CH=CHCF3	n-C3H7
C-92	CH2CH=CHPh	n-C3H7
C-93	CH(CH3)CH=CH2	n-C3H7
C-94	CH2CCH	n-C3H7

Compound	R^4	R^1
C-95	CH2CCCH3	n-C3H7
C-96	CH2CF3	n-C3H7
C-97	CH2CH2OCH3	n-C3H7
C-98	CH2CH2OC2H5	n-C3H7
C-99	CH2CH2CH2OCH3	n-C3H7
C-100	CH2CH2CH2OC2H5	n-C3H7
C-101	CH2CH(OCH3)2	n-C3H7
C-102	CH2CN	n-C3H7
C-103	CH2(cyclo-C3H5)	n-C3H7
C-104	CH2(cyclo-C5H9)	n-C3H7
C-105	CH2(cyclo-C6H11)	n-C3H7
C-106	CH2Ph	n-C3H7
C-107	CH2(2-Cl-Ph)	n-C3H7
C-108	CH2(3-Cl-Ph)	n-C3H7
C-109	CH2(4-Cl-Ph)	n-C3H7
C-110	CH2(2-CF3-Ph)	n-C3H7
C-111	CH2(3-CF3-Ph)	n-C3H7
C-112	CH2(4-CF3-Ph)	n-C3H7
C-113	CH2(2-F-Ph)	n-C3H7
C-114	CH2(3-F-Ph)	n-C3H7
C-115	CH2(4-F-Ph)	n-C3H7
C-116	CH2(2-OMe-Ph)	n-C3H7
C-117	CH2(3-OMe-Ph)	n-C3H7
C-118	CH2(4-OMe-Ph)	n-C3H7
C-119	CH(CH3)Ph	n-C3H7
C-120	CH(CH3)(2-Cl-Ph)	n-C3H7
C-121	CH(CH3)(3-Cl-Ph)	n-C3H7
C-122	CH(CH3)(4-Cl-Ph)	n-C3H7
C-123	CH(CH3)(2-CF3-Ph)	n-C3H7
C-124	CH(CH3)(3-CF3-Ph)	n-C3H7
C-125	CH(CH3)(4-CF3-Ph)	n-C3H7
C-126	CH2CH2Ph	n-C3H7
C-127	CH2CH=CH2	i-C3H7
C-128	CH2C(CH3)=CH2	i-C3H7
C-129	CH2C(CH3)=CHCH3	i-C3H7
C-130	CH2CH=C(CH3)2	i-C3H7
C-131	CH2CCl=CH2	i-C3H7
C-132	CH2CH=CCl2	i-C3H7
C-133	CH2CH=CHCF3	i-C3H7
C-134	CH2CH=CHPh	i-C3H7
C-135	CH(CH3)CH=CH2	i-C3H7
C-136	CH2CCH	i-C3H7

Compound	R^4	R^1
C-137	CH2CCCH3	i-C3H7
C-138	CH2CF3	i-C3H7
C-139	CH2CH2OCH3	i-C3H7
C-140	CH2CH2OC2H5	i-C3H7
C-141	CH2CH2CH2OCH3	i-C3H7
C-142	CH2CH2CH2OC2H5	i-C3H7
C-143	CH2CH(OCH3)2	i-C3H7
C-144	CH2CN	i-C3H7
C-145	CH2(cyclo-C3H5)	i-C3H7
C-146	CH2(cyclo-C5H9)	i-C3H7
C-147	CH2(cyclo-C6H11)	i-C3H7
C-148	CH2Ph	i-C3H7
C-149	CH2(2-Cl-Ph)	i-C3H7
C-150	CH2(3-Cl-Ph)	i-C3H7
C-151	CH2(4-Cl-Ph)	i-C3H7
C-152	CH2(2-CF3-Ph)	i-C3H7
C-153	CH2(3-CF3-Ph)	i-C3H7
C-154	CH2(4-CF3-Ph)	i-C3H7
C-155	CH2(2-F-Ph)	i-C3H7
C-156	CH2(3-F-Ph)	i-C3H7
C-157	CH2(4-F-Ph)	i-C3H7
C-158	CH2(2-OMe-Ph)	i-C3H7
C-159	CH2(3-OMe-Ph)	i-C3H7
C-160	CH2(4-OMe-Ph)	i-C3H7
C-161	CH(CH3)Ph	i-C3H7
C-162	CH(CH3)(2-Cl-Ph)	i-C3H7
C-163	CH(CH3)(3-Cl-Ph)	i-C3H7
C-164	CH(CH3)(4-Cl-Ph)	i-C3H7
C-165	CH(CH3)(2-CF3-Ph)	i-C3H7
C-166	CH(CH3)(3-CF3-Ph)	i-C3H7
C-167	CH(CH3)(4-CF3-Ph)	i-C3H7
C-168	CH2CH2Ph	i-C3H7
C-169	CH2CH=CH2	n-C4H9
C-170	CH2C(CH3)=CH2	n-C4H9
C-171	CH2C(CH3)=CHCH3	n-C4H9
C-172	CH2CH=C(CH3)2	n-C4H9
C-173	CH2CCl=CH2	n-C4H9
C-174	CH2CH=CCl2	n-C4H9
C-175	CH2CH=CHCF3	n-C4H9
C-176	CH2CH=CHPh	n-C4H9
C-177	CH(CH3)CH=CH2	n-C4H9
C-178	CH2CCH	n-C4H9

Compound	R^4	R^1
C-179	CH2CCCH3	n-C4H9
C-180	CH2CF3	n-C4H9
C-181	CH2CH2OCH3	n-C4H9
C-182	CH2CH2OC2H5	n-C4H9
C-183	CH2CH2CH2OCH3	n-C4H9
C-184	CH2CH2CH2OC2H5	n-C4H9
C-185	CH2CH(OCH3)2	n-C4H9
C-186	CH2CN	n-C4H9
C-187	CH2(cyclo-C3H5)	n-C4H9
C-188	CH2(cyclo-C5H9)	n-C4H9
C-189	CH2(cyclo-C6H11)	n-C4H9
C-190	CH2Ph	n-C4H9
C-191	CH2(2-Cl-Ph)	n-C4H9
C-192	CH2(3-Cl-Ph)	n-C4H9
C-193	CH2(4-Cl-Ph)	n-C4H9
C-194	CH2(2-CF3-Ph)	n-C4H9
C-195	CH2(3-CF3-Ph)	n-C4H9
C-196	CH2(4-CF3-Ph)	n-C4H9
C-197	CH2(2-F-Ph)	n-C4H9
C-198	CH2(3-F-Ph)	n-C4H9
C-199	CH2(4-F-Ph)	n-C4H9
C-200	CH2(2-OMe-Ph)	n-C4H9
C-201	CH2(3-OMe-Ph)	n-C4H9
C-202	CH2(4-OMe-Ph)	n-C4H9
C-203	CH(CH3)Ph	n-C4H9
C-204	CH(CH3)(2-Cl-Ph)	n-C4H9
C-205	CH(CH3)(3-Cl-Ph)	n-C4H9
C-206	CH(CH3)(4-Cl-Ph)	n-C4H9
C-207	CH(CH3)(2-CF3-Ph)	n-C4H9
C-208	CH(CH3)(3-CF3-Ph)	n-C4H9
C-209	CH(CH3)(4-CF3-Ph)	n-C4H9
C-210	CH2CH2Ph	n-C4H9
C-211	CH2CH=CH2	i-C4H9
C-212	CH2C(CH3)=CH2	i-C4H9
C-213	CH2C(CH3)=CHCH3	i-C4H9
C-214	CH2CH=C(CH3)2	i-C4H9
C-215	CH2CCl=CH2	i-C4H9
C-216	CH2CH=CCl2	i-C4H9
C-217	CH2CH=CHCF3	i-C4H9
C-218	CH2CH=CHPh	i-C4H9
C-219	CH(CH3)CH=CH2	i-C4H9
C-220	CH2CCH	i-C4H9

Compound	R^4	R^1
C-221	CH2CCCH3	i-C4H9
C-222	CH2CF3	i-C4H9
C-223	CH2CH2OCH3	i-C4H9
C-224	CH2CH2OC2H5	i-C4H9
C-225	CH2CH2CH2OCH3	i-C4H9
C-226	CH2CH2CH2OC2H5	i-C4H9
C-227	CH2CH(OCH3)2	i-C4H9
C-228	CH2CN	i-C4H9
C-229	CH2(cyclo-C3H5)	i-C4H9
C-230	CH2(cyclo-C5H9)	i-C4H9
C-231	CH2(cyclo-C6H11)	i-C4H9
C-232	CH2Ph	i-C4H9
C-233	CH2(2-Cl-Ph)	i-C4H9
C-234	CH2(3-Cl-Ph)	i-C4H9
C-235	CH2(4-Cl-Ph)	i-C4H9
C-236	CH2(2-CF3-Ph)	i-C4H9
C-237	CH2(3-CF3-Ph)	i-C4H9
C-238	CH2(4-CF3-Ph)	i-C4H9
C-239	CH2(2-F-Ph)	i-C4H9
C-240	CH2(3-F-Ph)	i-C4H9
C-241	CH2(4-F-Ph)	i-C4H9
C-242	CH2(2-OMe-Ph)	i-C4H9
C-243	CH2(3-OMe-Ph)	i-C4H9
C-244	CH2(4-OMe-Ph)	i-C4H9
C-245	CH(CH3)Ph	i-C4H9
C-246	CH(CH3)(2-Cl-Ph)	i-C4H9
C-247	CH(CH3)(3-Cl-Ph)	i-C4H9
C-248	CH(CH3)(4-Cl-Ph)	i-C4H9
C-249	CH(CH3)(2-CF3-Ph)	i-C4H9
C-250	CH(CH3)(3-CF3-Ph)	i-C4H9
C-251	CH(CH3)(4-CF3-Ph)	i-C4H9
C-252	CH2CH2Ph	i-C4H9
C-253	CH2CH=CH2	sec-C4H9
C-254	CH2C(CH3)=CH2	sec-C4H9
C-255	CH2C(CH3)=CHCH3	sec-C4H9
C-256	CH2CH=C(CH3)2	sec-C4H9
C-257	CH2CCl=CH2	sec-C4H9
C-258	CH2CH=CCl2	sec-C4H9
C-259	CH2CH=CHCF3	sec-C4H9
C-260	CH2CH=CHPh	sec-C4H9
C-261	CH(CH3)CH=CH2	sec-C4H9
C-262	CH2CCH	sec-C4H9

Compound	R^4	R^1
C-263	CH2CCCH3	sec-C4H9
C-264	CH2CF3	sec-C4H9
C-265	CH2CH2OCH3	sec-C4H9
C-266	CH2CH2OC2H5	sec-C4H9
C-267	CH2CH2CH2OCH3	sec-C4H9
C-268	CH2CH2CH2OC2H5	sec-C4H9
C-269	CH2CH(OCH3)2	sec-C4H9
C-270	CH2CN	sec-C4H9
C-271	CH2(cyclo-C3H5)	sec-C4H9
C-272	CH2(cyclo-C5H9)	sec-C4H9
C-273	CH2(cyclo-C6H11)	sec-C4H9
C-274	CH2Ph	sec-C4H9
C-275	CH2(2-Cl-Ph)	sec-C4H9
C-276	CH2(3-Cl-Ph)	sec-C4H9
C-277	CH2(4-Cl-Ph)	sec-C4H9
C-278	CH2(2-CF3-Ph)	sec-C4H9
C-279	CH2(3-CF3-Ph)	sec-C4H9
C-280	CH2(4-CF3-Ph)	sec-C4H9
C-281	CH2(2-F-Ph)	sec-C4H9
C-282	CH2(3-F-Ph)	sec-C4H9
C-283	CH2(4-F-Ph)	sec-C4H9
C-284	CH2(2-OMe-Ph)	sec-C4H9
C-285	CH2(3-OMe-Ph)	sec-C4H9
C-286	CH2(4-OMe-Ph)	sec-C4H9
C-287	CH(CH3)Ph	sec-C4H9
C-288	CH(CH3)(2-Cl-Ph)	sec-C4H9
C-289	CH(CH3)(3-Cl-Ph)	sec-C4H9
C-290	CH(CH3)(4-Cl-Ph)	sec-C4H9
C-291	CH(CH3)(2-CF3-Ph)	sec-C4H9
C-292	CH(CH3)(3-CF3-Ph)	sec-C4H9
C-293	CH(CH3)(4-CF3-Ph)	sec-C4H9
C-294	CH2CH2Ph	sec-C4H9
C-295	CH2CH=CH2	t-C4H9
C-296	CH2C(CH3)=CH2	t-C4H9
C-297	CH2C(CH3)=CHCH3	t-C4H9
C-298	CH2CH=C(CH3)2	t-C4H9
C-299	CH2CCl=CH2	t-C4H9
C-300	CH2CH=CCl2	t-C4H9
C-301	CH2CH=CHCF3	t-C4H9
C-302	CH2CH=CHPh	t-C4H9
C-303	CH(CH3)CH=CH2	t-C4H9
C-304	CH2CCH	t-C4H9

Compound	R^4	R^1
C-305	CH2CCCH3	t-C4H9
C-306	CH2CF3	t-C4H9
C-307	CH2CH2OCH3	t-C4H9
C-308	CH2CH2OC2H5	t-C4H9
C-309	CH2CH2CH2OCH3	t-C4H9
C-310	CH2CH2CH2OC2H5	t-C4H9
C-311	CH2CH(OCH3)2	t-C4H9
C-312	CH2CN	t-C4H9
C-313	CH2(cyclo-C3H5)	t-C4H9
C-314	CH2(cyclo-C5H9)	t-C4H9
C-315	CH2(cyclo-C6H11)	t-C4H9
C-316	CH2Ph	t-C4H9
C-317	CH2(2-Cl-Ph)	t-C4H9
C-318	CH2(3-Cl-Ph)	t-C4H9
C-319	CH2(4-Cl-Ph)	t-C4H9
C-320	CH2(2-CF3-Ph)	t-C4H9
C-321	CH2(3-CF3-Ph)	t-C4H9
C-322	CH2(4-CF3-Ph)	t-C4H9
C-323	CH2(2-F-Ph)	t-C4H9
C-324	CH2(3-F-Ph)	t-C4H9
C-325	CH2(4-F-Ph)	t-C4H9
C-326	CH2(2-OMe-Ph)	t-C4H9
C-327	CH2(3-OMe-Ph)	t-C4H9
C-328	CH2(4-OMe-Ph)	t-C4H9
C-329	CH(CH3)Ph	t-C4H9
C-330	CH(CH3)(2-Cl-Ph)	t-C4H9
C-331	CH(CH3)(3-Cl-Ph)	t-C4H9
C-332	CH(CH3)(4-Cl-Ph)	t-C4H9
C-333	CH(CH3)(2-CF3-Ph)	t-C4H9
C-334	CH(CH3)(3-CF3-Ph)	t-C4H9
C-335	CH(CH3)(4-CF3-Ph)	t-C4H9
C-336	CH2CH2Ph	t-C4H9
C-337	CH2CH=CH2	n-C5H11
C-338	CH2C(CH3)=CH2	n-C5H11
C-339	CH2C(CH3)=CHCH3	n-C5H11
C-340	CH2CH=C(CH3)2	n-C5H11
C-341	CH2CCl=CH2	n-C5H11
C-342	CH2CH=CCl2	n-C5H11
C-343	CH2CH=CHCF3	n-C5H11
C-344	CH2CH=CHPh	n-C5H11
C-345	CH(CH3)CH=CH2	n-C5H11
C-346	CH2CCH	n-C5H11

Compound	R^4	R^1
C-347	CH2CCCH3	n-C5H11
C-348	CH2CF3	n-C5H11
C-349	CH2CH2OCH3	n-C5H11
C-350	CH2CH2OC2H5	n-C5H11
C-351	CH2CH2CH2OCH3	n-C5H11
C-352	CH2CH2CH2OC2H5	n-C5H11
C-353	CH2CH(OCH3)2	n-C5H11
C-354	CH2CN	n-C5H11
C-355	CH2(cyclo-C3H5)	n-C5H11
C-356	CH2(cyclo-C5H9)	n-C5H11
C-357	CH2(cyclo-C6H11)	n-C5H11
C-358	CH2Ph	n-C5H11
C-359	CH2(2-Cl-Ph)	n-C5H11
C-360	CH2(3-Cl-Ph)	n-C5H11
C-361	CH2(4-Cl-Ph)	n-C5H11
C-362	CH2(2-CF3-Ph)	n-C5H11
C-363	CH2(3-CF3-Ph)	n-C5H11
C-364	CH2(4-CF3-Ph)	n-C5H11
C-365	CH2(2-F-Ph)	n-C5H11
C-366	CH2(3-F-Ph)	n-C5H11
C-367	CH2(4-F-Ph)	n-C5H11
C-368	CH2(2-OMe-Ph)	n-C5H11
C-369	CH2(3-OMe-Ph)	n-C5H11
C-370	CH2(4-OMe-Ph)	n-C5H11
C-371	CH(CH3)Ph	n-C5H11
C-372	CH(CH3)(2-Cl-Ph)	n-C5H11
C-373	CH(CH3)(3-Cl-Ph)	n-C5H11
C-374	CH(CH3)(4-Cl-Ph)	n-C5H11
C-375	CH(CH3)(2-CF3-Ph)	n-C5H11
C-376	CH(CH3)(3-CF3-Ph)	n-C5H11
C-377	CH(CH3)(4-CF3-Ph)	n-C5H11
C-378	CH2CH2Ph	n-C5H11
C-379	CH2CH=CH2	n-C6H13
C-380	CH2C(CH3)=CH2	n-C6H13
C-381	CH2C(CH3)=CHCH3	n-C6H13
C-382	CH2CH=C(CH3)2	n-C6H13
C-383	CH2CCl=CH2	n-C6H13
C-384	CH2CH=CCl2	n-C6H13
C-385	CH2CH=CHCF3	n-C6H13
C-386	CH2CH=CHPh	n-C6H13
C-387	CH(CH3)CH=CH2	n-C6H13
C-388	CH2CCH	n-C6H13

Compound	R^4	R^1
C-389	CH2CCCH3	n-C6H13
C-390	CH2CF3	n-C6H13
C-391	CH2CH2OCH3	n-C6H13
C-392	CH2CH2OC2H5	n-C6H13
C-393	CH2CH2CH2OCH3	n-C6H13
C-394	CH2CH2CH2OC2H5	n-C6H13
C-395	CH2CH(OCH3)2	n-C6H13
C-396	CH2CN	n-C6H13
C-397	CH2(cyclo-C3H5)	n-C6H13
C-398	CH2(cyclo-C5H9)	n-C6H13
C-399	CH2(cyclo-C6H11)	n-C6H13
C-400	CH2Ph	n-C6H13
C-401	CH2(2-Cl-Ph)	n-C6H13
C-402	CH2(3-Cl-Ph)	n-C6H13
C-403	CH2(4-Cl-Ph)	n-C6H13
C-404	CH2(2-CF3-Ph)	n-C6H13
C-405	CH2(3-CF3-Ph)	n-C6H13
C-406	CH2(4-CF3-Ph)	n-C6H13
C-407	CH2(2-F-Ph)	n-C6H13
C-408	CH2(3-F-Ph)	n-C6H13
C-409	CH2(4-F-Ph)	n-C6H13
C-410	CH2(2-OMe-Ph)	n-C6H13
C-411	CH2(3-OMe-Ph)	n-C6H13
C-412	CH2(4-OMe-Ph)	n-C6H13
C-413	CH(CH3)Ph	n-C6H13
C-414	CH(CH3)(2-Cl-Ph)	n-C6H13
C-415	CH(CH3)(3-Cl-Ph)	n-C6H13
C-416	CH(CH3)(4-Cl-Ph)	n-C6H13
C-417	CH(CH3)(2-CF3-Ph)	n-C6H13
C-418	CH(CH3)(3-CF3-Ph)	n-C6H13
C-419	CH(CH3)(4-CF3-Ph)	n-C6H13
C-420	CH2CH2Ph	n-C6H13
C-421	CH2CH=CH2	cyclo-C5H9
C-422	CH2C(CH3)=CH2	cyclo-C5H9
C-423	CH2C(CH3)=CHCH3	cyclo-C5H9
C-424	CH2CH=C(CH3)2	cyclo-C5H9
C-425	CH2CCl=CH2	cyclo-C5H9
C-426	CH2CH=CCl2	cyclo-C5H9
C-427	CH2CH=CHCF3	cyclo-C5H9
C-428	CH2CH=CHPh	cyclo-C5H9
C-429	CH(CH3)CH=CH2	cyclo-C5H9
C-430	CH2CCH	cyclo-C5H9

Compound	R^4	R^1
C-431	CH2CCCH3	cyclo-C5H9
C-432	CH2CF3	cyclo-C5H9
C-433	CH2CH2OCH3	cyclo-C5H9
C-434	CH2CH2OC2H5	cyclo-C5H9
C-435	CH2CH2CH2OCH3	cyclo-C5H9
C-436	CH2CH2CH2OC2H5	cyclo-C5H9
C-437	CH2CH(OCH3)2	cyclo-C5H9
C-438	CH2CN	cyclo-C5H9
C-439	CH2(cyclo-C3H5)	cyclo-C5H9
C-440	CH2(cyclo-C5H9)	cyclo-C5H9
C-441	CH2(cyclo-C6H11)	cyclo-C5H9
C-442	CH2Ph	cyclo-C5H9
C-443	CH2(2-Cl-Ph)	cyclo-C5H9
C-444	CH2(3-Cl-Ph)	cyclo-C5H9
C-445	CH2(4-Cl-Ph)	cyclo-C5H9
C-446	CH2(2-CF3-Ph)	cyclo-C5H9
C-447	CH2(3-CF3-Ph)	cyclo-C5H9
C-448	CH2(4-CF3-Ph)	cyclo-C5H9
C-449	CH2(2-F-Ph)	cyclo-C5H9
C-450	CH2(3-F-Ph)	cyclo-C5H9
C-451	CH2(4-F-Ph)	cyclo-C5H9
C-452	CH2(2-OMe-Ph)	cyclo-C5H9
C-453	CH2(3-OMe-Ph)	cyclo-C5H9
C-454	CH2(4-OMe-Ph)	cyclo-C5H9
C-455	CH(CH3)Ph	cyclo-C5H9
C-456	CH(CH3)(2-Cl-Ph)	cyclo-C5H9
C-457	CH(CH3)(3-Cl-Ph)	cyclo-C5H9
C-458	CH(CH3)(4-Cl-Ph)	cyclo-C5H9
C-459	CH(CH3)(2-CF3-Ph)	cyclo-C5H9
C-460	CH(CH3)(3-CF3-Ph)	cyclo-C5H9
C-461	CH(CH3)(4-CF3-Ph)	cyclo-C5H9
C-462	CH2CH2Ph	cyclo-C5H9
C-463	CH3	cyclo-C6H11
C-464	C2H5	cyclo-C6H11
C-465	n-C3H7	cyclo-C6H11
C-466	i-C3H7	cyclo-C6H11
C-467	n-C4H9	cyclo-C6H11
C-468	s-C4H9	cyclo-C6H11
C-469	i-C4H9	cyclo-C6H11
C-470	t-C4H9	cyclo-C6H11
C-471	n-C5H11	cyclo-C6H11
C-472	n-C6H13	cyclo-C6H11

Compound	R^4	R^1
C-473	CH2CH=CH2	cyclo-C6H11
C-474	CH2C(CH3)=CH2	cyclo-C6H11
C-475	CH2C(CH3)=CHCH3	cyclo-C6H11
C-476	CH2CH=C(CH3)2	cyclo-C6H11
C-477	CH2CCl=CH2	cyclo-C6H11
C-478	CH2CH=CCl2	cyclo-C6H11
C-479	CH2CH=CHCF3	cyclo-C6H11
C-480	CH2CH=CHPh	cyclo-C6H11
C-481	CH(CH3)CH=CH2	cyclo-C6H11
C-482	CH2CCH	cyclo-C6H11
C-483	CH2CCCH3	cyclo-C6H11
C-484	CH2CF3	cyclo-C6H11
C-485	CH2CH2OCH3	cyclo-C6H11
C-486	CH2CH2OC2H5	cyclo-C6H11
C-487	CH2CH2CH2OCH3	cyclo-C6H11
C-488	CH2CH2CH2OC2H5	cyclo-C6H11
C-489	CH2CH(OCH3)2	cyclo-C6H11
C-490	CH2CN	cyclo-C6H11
C-491	CH2(cyclo-C3H5)	cyclo-C6H11
C-492	CH2(cyclo-C5H9)	cyclo-C6H11
C-493	CH2(cyclo-C6H11)	cyclo-C6H11
C-494	CH2Ph	cyclo-C6H11
C-495	CH2(2-Cl-Ph)	cyclo-C6H11
C-496	CH2(3-Cl-Ph)	cyclo-C6H11
C-497	CH2(4-Cl-Ph)	cyclo-C6H11
C-498	CH2(2-CF3-Ph)	cyclo-C6H11
C-499	CH2(3-CF3-Ph)	cyclo-C6H11
C-500	CH2(4-CF3-Ph)	cyclo-C6H11
C-501	CH2(2-F-Ph)	cyclo-C6H11
C-502	CH2(3-F-Ph)	cyclo-C6H11
C-503	CH2(4-F-Ph)	cyclo-C6H11
C-504	CH2(2-OMe-Ph)	cyclo-C6H11
C-505	CH2(3-OMe-Ph)	cyclo-C6H11
C-506	CH2(4-OMe-Ph)	cyclo-C6H11
C-507	CH(CH3)Ph	cyclo-C6H11
C-508	CH(CH3)(2-Cl-Ph)	cyclo-C6H11
C-509	CH(CH3)(3-Cl-Ph)	cyclo-C6H11
C-510	CH(CH3)(4-Cl-Ph)	cyclo-C6H11
C-511	CH(CH3)(2-CF3-Ph)	cyclo-C6H11
C-512	CH(CH3)(3-CF3-Ph)	cyclo-C6H11
C-513	CH(CH3)(4-CF3-Ph)	cyclo-C6H11
C-514	CH2CH2Ph	cyclo-C6H11

Compound	R^4	R^1
C-515	CH3	CH2Ph
C-516	C2H5	CH2Ph
C-517	n-C3H7	CH2Ph
C-518	i-C3H7	CH2Ph
C-519	n-C4H9	CH2Ph
C-520	s-C4H9	CH2Ph
C-521	i-C4H9	CH2Ph
C-522	t-C4H9	CH2Ph
C-523	n-C5H11	CH2Ph
C-524	n-C6H13	CH2Ph
C-525	CH2CH=CH2	CH2Ph
C-526	CH2C(CH3)=CH2	CH2Ph
C-527	CH2C(CH3)=CHCH3	CH2Ph
C-528	CH2CH=C(CH3)2	CH2Ph
C-529	CH2CCl=CH2	CH2Ph
C-530	CH2CH=CCl2	CH2Ph
C-531	CH2CH=CHCF3	CH2Ph
C-532	CH2CH=CHPh	CH2Ph
C-533	CH(CH3)CH=CH2	CH2Ph
C-534	CH2CCH	CH2Ph
C-535	CH2CCCH3	CH2Ph
C-536	CH2CF3	CH2Ph
C-537	CH2CH2OCH3	CH2Ph
C-538	CH2CH2OC2H5	CH2Ph
C-539	CH2CH2CH2OCH3	CH2Ph
C-540	CH2CH2CH2OC2H5	CH2Ph
C-541	CH2CH(OCH3)2	CH2Ph
C-542	CH2CN	CH2Ph
C-543	CH2(cyclo-C3H5)	CH2Ph
C-544	CH2(cyclo-C5H9)	CH2Ph
C-545	CH2(cyclo-C6H11)	CH2Ph
C-546	CH2Ph	CH2Ph
C-547	CH2(2-Cl-Ph)	CH2Ph
C-548	CH2(3-Cl-Ph)	CH2Ph
C-549	CH2(4-Cl-Ph)	CH2Ph
C-550	CH2(2-CF3-Ph)	CH2Ph
C-551	CH2(3-CF3-Ph)	CH2Ph
C-552	CH2(4-CF3-Ph)	CH2Ph
C-553	CH2(2-F-Ph)	CH2Ph
C-554	CH2(3-F-Ph)	CH2Ph
C-555	CH2(4-F-Ph)	CH2Ph
C-556	CH2(2-OMe-Ph)	CH2Ph

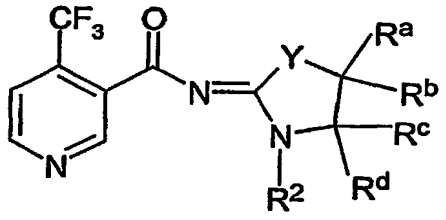
Compound	R^4	R^1
C-557	CH2(3-OMe-Ph)	CH2Ph
C-558	CH2(4-OMe-Ph)	CH2Ph
C-559	CH(CH3)Ph	CH2Ph
C-560	CH(CH3)(2-Cl-Ph)	CH2Ph
C-561	CH(CH3)(3-Cl-Ph)	CH2Ph
C-562	CH(CH3)(4-Cl-Ph)	CH2Ph
C-563	CH(CH3)(2-CF3-Ph)	CH2Ph
C-564	CH(CH3)(3-CF3-Ph)	CH2Ph
C-565	CH(CH3)(4-CF3-Ph)	CH2Ph
C-566	CH2CH2Ph	CH2Ph
C-567	n-C3H7	CH(CH3)Ph
C-568	i-C3H7	CH(CH3)Ph
C-569	CH2CH=CH2	CH(CH3)Ph
C-570	CH2C(CH3)=CH2	CH(CH3)Ph
C-571	CH2C(CH3)=CHCH3	CH(CH3)Ph
C-572	CH2CH=C(CH3)2	CH(CH3)Ph
C-573	CH2Ph	CH(CH3)Ph
C-574	CH2(3-CF3-Ph)	CH(CH3)Ph
C-575	n-C3H7	CH2(2-Cl-Ph)
C-576	i-C3H7	CH2(2-Cl-Ph)
C-577	CH2CH=CH2	CH2(2-Cl-Ph)
C-578	CH2C(CH3)=CH2	CH2(2-Cl-Ph)
C-579	CH2C(CH3)=CHCH3	CH2(2-Cl-Ph)
C-580	CH2CH=C(CH3)2	CH2(2-Cl-Ph)
C-581	CH2Ph	CH2(2-Cl-Ph)
C-582	CH2(3-CF3-Ph)	CH2(2-Cl-Ph)
C-583	n-C3H7	CH2(3-Cl-Ph)
C-584	i-C3H7	CH2(3-Cl-Ph)
C-585	CH2CH=CH2	CH2(3-Cl-Ph)
C-586	CH2C(CH3)=CH2	CH2(3-Cl-Ph)
C-587	CH2C(CH3)=CHCH3	CH2(3-Cl-Ph)
C-588	CH2CH=C(CH3)2	CH2(3-Cl-Ph)
C-589	CH2Ph	CH2(3-Cl-Ph)
C-590	CH2(3-CF3-Ph)	CH2(3-Cl-Ph)
C-591	n-C3H7	CH2(4-Cl-Ph)
C-592	i-C3H7	CH2(4-Cl-Ph)
C-593	CH2CH=CH2	CH2(4-Cl-Ph)
C-594	CH2C(CH3)=CH2	CH2(4-Cl-Ph)
C-595	CH2C(CH3)=CHCH3	CH2(4-Cl-Ph)
C-596	CH2CH=C(CH3)2	CH2(4-Cl-Ph)
C-597	CH2Ph	CH2(4-Cl-Ph)
C-598	CH2(3-CF3-Ph)	CH2(4-Cl-Ph)

Compound	R^4	R^1
C-599	n-C3H7	CH2(4-MeO-Ph)
C-600	i-C3H7	CH2(4-MeO-Ph)
C-601	CH2CH=CH2	CH2(4-MeO-Ph)
C-602	CH2C(CH3)=CH2	CH2(4-MeO-Ph)
C-603	CH2C(CH3)=CHCH3	CH2(4-MeO-Ph)
C-604	CH2CH=C(CH3)2	CH2(4-MeO-Ph)
C-605	CH2Ph	CH2(4-MeO-Ph)
C-606	CH2(3-CF3-Ph)	CH2(4-MeO-Ph)
C-607	CH2CCH	CH2CH2CH(OCH3)CH3
C-608	CH3	CH2CH2CH2SCH3
C-609	CH3	NHCH3
C-610	C2H5	NHCH3
C-611	i-C3H7	NHCH3
C-612	CH2CH=CH2	NHCH3
C-613	CH2CCH	NHCH3
C-614	CH2Ph	NHCH3
C-615	CH3	NHC2H5
C-616	C2H5	NHC2H5
C-617	i-C3H7	NHC2H5
C-618	CH2CH=CH2	NHC2H5
C-619	CH2CCH	NHC2H5
C-620	CH2Ph	NHC2H5
C-621	CH3	NH(i-C3H7)
C-622	C2H5	NH(i-C3H7)
C-623	i-C3H7	NH(i-C3H7)
C-624	CH2CH=CH2	NH(i-C3H7)
C-625	CH2CCH	NH(i-C3H7)
C-626	CH2Ph	NH(i-C3H7)
C-627	CH3	NH(t-C4H9)
C-628	C2H5	NH(t-C4H9)
C-629	i-C3H7	NH(t-C4H9)
C-630	CH2CH=CH2	NH(t-C4H9)
C-631	CH2CCH	NH(t-C4H9)
C-632	CH2Ph	NH(t-C4H9)
C-633	CH3	NH(cyclo-C6H11)
C-634	C2H5	NH(cyclo-C6H11)
C-635	i-C3H7	NH(cyclo-C6H11)
C-636	CH2CH=CH2	NH(cyclo-C6H11)
C-637	CH2CCH	NH(cyclo-C6H11)
C-638	CH2Ph	NH(cyclo-C6H11)
C-639	CH3	NHCH2Ph
C-640	C2H5	NHCH2Ph

Compound	R^4	R^1
C-641	i-C3H7	NHCH2Ph
C-642	CH2CH=CH2	NHCH2Ph
C-643	CH2CCH	NHCH2Ph
C-644	CH2Ph	NHCH2Ph
C-645	CH3	NHPh
C-646	C2H5	NHPh
C-647	i-C3H7	NHPh
C-648	t-C4H9	NHPh
C-649	CH2CCH	NHPh
C-650	CH2Ph	NHPh
C-651	CH2CCH	CH2CH2CH(CH3)OCH3

Table 4

Compounds of formula (Id):



(Id)

Compound	Y	R^2	R^c	R^d	R^a	R^b
D-1	S	H	H	H	H	H
D-2	S	CH3	H	H	H	H
D-3	S	C2H5	H	H	H	H
D-4	S	n-C3H7	H	H	H	H
D-5	S	i-C3H7	H	H	H	H
D-6	S	n-C4H9	H	H	H	H
D-7	S	s-C4H9	H	H	H	H
D-8	S	i-C4H9	H	H	H	H
D-9	S	t-C4H9	H	H	H	H
D-10	S	n-C5H11	H	H	H	H
D-11	S	n-C6H13	H	H	H	H
D-12	S	CH2CH=CH2	H	H	H	H
D-13	S	CH2C(CH3)=CH2	H	H	H	H
D-14	S	CH2C(CH3)=CHCH3	H	H	H	H
D-15	S	CH2CH=C(CH3)2	H	H	H	H
D-16	S	CH2CCl=CH2	H	H	H	H
D-17	S	CH2CH=CCl2	H	H	H	H
D-18	S	CH2CH=CHCF3	H	H	H	H
D-19	S	CH(CH3)CH=CH2	H	H	H	H

Compound	Y	R^2	R^c	R^d	R^a	R^b
D-20	S	CH2CCH	H	H	H	H
D-21	S	CH2CCCH3	H	H	H	H
D-22	S	CH2CF3	H	H	H	H
D-23	S	CH2CH2OCH3	H	H	H	H
D-24	S	CH2CH2OC2H5	H	H	H	H
D-25	S	CH2CH2CH2OCH3	H	H	H	H
D-26	S	CH2CH2CH2OC2H5	H	H	H	H
D-27	S	CH2CH(OCH3)2	H	H	H	H
D-28	S	CH2CN	H	H	H	H
D-29	S	C(CH3)2CN	H	H	H	H
D-30	S	C(CH3)(i-C3H7)CN	H	H	H	H
D-31	S	CH2CO2CH3	H	H	H	H
D-32	S	CH2CO2C2H5	H	H	H	H
D-33	S	CH(CH3)CO2CH3	H	H	H	H
D-34	S	cyclo-C3H7	H	H	H	H
D-35	S	cyclo-C5H9	H	H	H	H
D-36	S	cyclo-C6H11	H	H	H	H
D-37	S	CH2(cyclo-C3H5)	H	H	H	H
D-38	S	CH2(cyclo-C5H9)	H	H	H	H
D-39	S	CH2(cyclo-C6H11)	H	H	H	H
D-40	S	CH2Ph	H	H	H	H
D-41	S	CH2(2-Cl-Ph)	H	H	H	H
D-42	S	CH2(3-Cl-Ph)	H	H	H	H
D-43	S	CH2(4-Cl-Ph)	H	H	H	H
D-44	S	CH2(2-CF3-Ph)	H	H	H	H
D-45	S	CH2(3-CF3-Ph)	H	H	H	H
D-46	S	CH2(4-CF3-Ph)	H	H	H	H
D-47	S	CH2(2-F-Ph)	H	H	H	H
D-48	S	CH2(3-F-Ph)	H	H	H	H
D-49	S	CH2(4-F-Ph)	H	H	H	H
D-50	S	CH2(2-OMe-Ph)	H	H	H	H
D-51	S	CH2(3-OMe-Ph)	H	H	H	H
D-52	S	CH2(4-OMe-Ph)	H	H	H	H
D-53	S	CH(CH3)Ph	H	H	H	H
D-54	S	CH(CH3)(2-Cl-Ph)	H	H	H	H
D-55	S	CH(CH3)(3-Cl-Ph)	H	H	H	H
D-56	S	CH(CH3)(4-Cl-Ph)	H	H	H	H
D-57	S	CH(CH3)(2-CF3-Ph)	H	H	H	H
D-58	S	CH(CH3)(3-CF3-Ph)	H	H	H	H
D-59	S	CH(CH3)(4-CF3-Ph)	H	H	H	H
D-60	S	Ph	H	H	H	H
D-61	S	2-Cl-Ph	H	H	H	H

Compound	Y	R^2	R^c	R^d	R^a	R^b
D-62	S	3-Cl-Ph	H	H	H	H
D-63	S	4-Cl-Ph	H	H	H	H
D-64	S	2-CF3-Ph	H	H	H	H
D-65	S	3-CF3-Ph	H	H	H	H
D-66	S	4-CF3-Ph	H	H	H	H
D-67	S	2-CH3O-Ph	H	H	H	H
D-68	S	3-CH3O-Ph	H	H	H	H
D-69	S	4-CH3O-Ph	H	H	H	H
D-70	S	4-CF3O-Ph	H	H	H	H
D-71	S	4-CF3CH2O-Ph	H	H	H	H
D-72	S	4-PhO-Ph	H	H	H	H
D-73	S	4-(4-Cl-Ph)O-Ph	H	H	H	H
D-74	S	4-(4-CF3-Ph)O-Ph	H	H	H	H
D-75	S	OCH3	H	H	H	H
D-76	S	OC2H5	H	H	H	H
D-77	S	O-n-C3H7	H	H	H	H
D-78	S	O-i-C3H7	H	H	H	H
D-79	S	O-n-C4H9	H	H	H	H
D-80	S	O-i-C4H7	H	H	H	H
D-81	S	O-sec-C4H9	H	H	H	H
D-82	S	O-t-C4H9	H	H	H	H
D-83	S	O-n-C5H11	H	H	H	H
D-84	S	OCH2CH=CH2	H	H	H	H
D-85	S	OCH2C(CH3)=CH2	H	H	H	H
D-86	S	OCH2CH=CHCH3	H	H	H	H
D-87	S	OCH2CH=C(CH3)2	H	H	H	H
D-88	S	OCH2CCH	H	H	H	H
D-89	S	OCH2CCCH3	H	H	H	H
D-90	S	OCH2Ph	H	H	H	H
D-91	S	OCH(CH3)Ph	H	H	H	H
D-92	S	OCH2(2-Cl-Ph)	H	H	H	H
D-93	S	OCH2(3-Cl-Ph)	H	H	H	H
D-94	S	OCH2(4-Cl-Ph)	H	H	H	H
D-95	S	OCH2(2-OCH3-Ph)	H	H	H	H
D-96	S	OCH2(3-OCH3-Ph)	H	H	H	H
D-97	S	OCH2(4-OCH3-Ph)	H	H	H	H
D-98	S	OCH2(2-CF3-Ph)	H	H	H	H
D-99	S	OCH2(3-CF3-Ph)	H	H	H	H
D-100	S	OCH2(4-CF3-Ph)	H	H	H	H
D-101	S	OCH2(2-NO2-Ph)	H	H	H	H
D-102	S	OCH2(3-NO2-Ph)	H	H	H	H
D-103	S	OCH2(4-NO2-Ph)	H	H	H	H

Compound	Y	R^2	R^c	R^d	R^a	R^b
D-104	S	CH3		O	H	H
D-105	S	C2H5		O	H	H
D-106	S	n-C3H7		O	H	H
D-107	S	i-C3H7		O	H	H
D-108	S	n-C4H9		O	H	H
D-109	S	s-C4H9		O	H	H
D-110	S	i-C4H9		O	H	H
D-111	S	t-C4H9		O	H	H
D-112	S	n-C5H11		O	H	H
D-113	S	n-C6H13		O	H	H
D-114	S	CH2CH=CH2		O	H	H
D-115	S	CH2C(CH3)=CH2		O	H	H
D-116	S	CH2C(CH3)=CHCH3		O	H	H
D-117	S	CH2CH=C(CH3)2		O	H	H
D-118	S	CH2CCl=CH2		O	H	H
D-119	S	CH2CH=CCl2		O	H	H
D-120	S	CH2CH=CHCF3		O	H	H
D-121	S	CH2CH=CHPh		O	H	H
D-122	S	CH(CH3)CH=CH2		O	H	H
D-123	S	CH2CCH		O	H	H
D-124	S	CH2CCCH3		O	H	H
D-125	S	CH2CF3		O	H	H
D-126	S	CH2CH2OCH3		O	H	H
D-127	S	CH2CH2OC2H5		O	H	H
D-128	S	CH2CH2CH2OCH3		O	H	H
D-129	S	CH2CH2CH2OC2H5		O	H	H
D-130	S	CH2CH(OCH3)2		O	H	H
D-131	S	CH2CN		O	H	H
D-132	S	C(CH3)2CN		O	H	H
D-133	S	C(CH3)(i-C3H7)CN		O	H	H
D-134	S	CH2CO2CH3		O	H	H
D-135	S	CH2CO2C2H5		O	H	H
D-136	S	CH(CH3)CO2CH3		O	H	H
D-137	S	cyclo-C3H7		O	H	H
D-138	S	cyclo-C5H9		O	H	H
D-139	S	cyclo-C6H11		O	H	H
D-140	S	CH2(cyclo-C3H5)		O	H	H
D-141	S	CH2(cyclo-C5H9)		O	H	H
D-142	S	CH2(cyclo-C6H11)		O	H	H
D-143	S	CH2Ph		O	H	H
D-144	S	CH2(2-Cl-Ph)		O	H	H
D-145	S	CH2(3-Cl-Ph)		O	H	H

Compound	Y	R^2	R^c	R^d	R^a	R^b
D-146	S	CH2(4-Cl-Ph)	O		H	H
D-147	S	CH2(2-CF3-Ph)	O		H	H
D-148	S	CH2(3-CF3-Ph)	O		H	H
D-149	S	CH2(4-CF3-Ph)	O		H	H
D-150	S	CH2(2-F-Ph)	O		H	H
D-151	S	CH2(3-F-Ph)	O		H	H
D-152	S	CH2(4-F-Ph)	O		H	H
D-153	S	CH2(2-OMe-Ph)	O		H	H
D-154	S	CH2(3-OMe-Ph)	O		H	H
D-155	S	CH2(4-OMe-Ph)	O		H	H
D-156	S	CH(CH3)Ph	O		H	H
D-157	S	CH(CH3)(2-Cl-Ph)	O		H	H
D-158	S	CH(CH3)(3-Cl-Ph)	O		H	H
D-159	S	CH(CH3)(4-Cl-Ph)	O		H	H
D-160	S	CH(CH3)(2-CF3-Ph)	O		H	H
D-161	S	CH(CH3)(3-CF3-Ph)	O		H	H
D-162	S	CH(CH3)(4-CF3-Ph)	O		H	H
D-163	S	Ph	O		H	H
D-164	S	2-Cl-Ph	O		H	H
D-165	S	3-Cl-Ph	O		H	H
D-166	S	4-Cl-Ph	O		H	H
D-167	S	2-CF3-Ph	O		H	H
D-168	S	3-CF3-Ph	O		H	H
D-169	S	4-CF3-Ph	O		H	H
D-170	S	2-CH3O-Ph	O		H	H
D-171	S	3-CH3O-Ph	O		H	H
D-172	S	4-CH3O-Ph	O		H	H
D-173	S	4-CF3O-Ph	O		H	H
D-174	S	4-CF3CH2O-Ph	O		H	H
D-175	S	4-PhO-Ph	O		H	H
D-176	S	4-(4-Cl-Ph)O-Ph	O		H	H
D-177	S	4-(4-CF3-Ph)O-Ph	O		H	H
D-178	S	OCH3	O		H	H
D-179	S	OC2H5	O		H	H
D-180	S	O-n-C3H7	O		H	H
D-181	S	O-i-C3H7	O		H	H
D-182	S	O-n-C4H9	O		H	H
D-183	S	O-i-C4H7	O		H	H
D-184	S	O-sec-C4H9	O		H	H
D-185	S	O-t-C4H9	O		H	H
D-186	S	O-n-C5H11	O		H	H
D-187	S	OCH2CH=CH2	O		H	H

Compound	Y	R^2	R^c	R^d	R^a	R^b
D-188	S	OCH2C(CH3)=CH2		O	H	H
D-189	S	OCH2CH=CHCH3		O	H	H
D-190	S	OCH2CH=C(CH3)2		O	H	H
D-191	S	OCH2CCH		O	H	H
D-192	S	OCH2CCCH3		O	H	H
D-193	S	OCH2Ph		O	H	H
D-194	S	OCH(CH3)Ph		O	H	H
D-195	S	OCH2(2-Cl-Ph)		O	H	H
D-196	S	OCH2(3-Cl-Ph)		O	H	H
D-197	S	OCH2(4-Cl-Ph)		O	H	H
D-198	S	OCH2(2-OCH3-Ph)		O	H	H
D-199	S	OCH2(3-OCH3-Ph)		O	H	H
D-200	S	OCH2(4-OCH3-Ph)		O	H	H
D-201	S	OCH2(2-CF3-Ph)		O	H	H
D-202	S	OCH2(3-CF3-Ph)		O	H	H
D-203	S	OCH2(4-CF3-Ph)		O	H	H
D-204	S	OCH2(2-NO2-Ph)		O	H	H
D-205	S	OCH2(3-NO2-Ph)		O	H	H
D-206	S	OCH2(4-NO2-Ph)		O	H	H
D-207	S	CH3		O	CH3	H
D-208	S	C2H5		O	CH3	H
D-209	S	n-C3H7		O	CH3	H
D-210	S	i-C3H7		O	CH3	H
D-211	S	n-C4H9		O	CH3	H
D-212	S	s-C4H9		O	CH3	H
D-213	S	i-C4H9		O	CH3	H
D-214	S	t-C4H9		O	CH3	H
D-215	S	n-C5H11		O	CH3	H
D-216	S	n-C6H13		O	CH3	H
D-217	S	CH2CH=CH2		O	CH3	H
D-218	S	CH2C(CH3)=CH2		O	CH3	H
D-219	S	CH2C(CH3)=CHCH3		O	CH3	H
D-220	S	CH2CH=C(CH3)2		O	CH3	H
D-221	S	CH2CCl=CH2		O	CH3	H
D-222	S	CH2CH=CCl2		O	CH3	H
D-223	S	CH2CH=CHCF3		O	CH3	H
D-224	S	CH2CH=CHPh		O	CH3	H
D-225	S	CH(CH3)CH=CH2		O	CH3	H
D-226	S	CH2CCH		O	CH3	H
D-227	S	CH2CCCH3		O	CH3	H
D-228	S	CH2CF3		O	CH3	H
D-229	S	CH2CH2OCH3		O	CH3	H

Compound	Y	R^2	R^c	R^d	R^a	R^b
D-230	S	CH2CH2OC2H5		O	CH3	H
D-231	S	CH2CH2CH2OCH3		O	CH3	H
D-232	S	CH2CH2CH2OC2H5		O	CH3	H
D-233	S	CH2CH(OCH3)2		O	CH3	H
D-234	S	CH2CN		O	CH3	H
D-235	S	C(CH3)2CN		O	CH3	H
D-236	S	C(CH3)(i-C3H7)CN		O	CH3	H
D-237	S	CH2CO2CH3		O	CH3	H
D-238	S	CH2CO2C2H5		O	CH3	H
D-239	S	CH(CH3)CO2CH3		O	CH3	H
D-240	S	cyclo-C3H7		O	CH3	H
D-241	S	cyclo-C5H9		O	CH3	H
D-242	S	cyclo-C6H11		O	CH3	H
D-243	S	CH2(cyclo-C3H5)		O	CH3	H
D-244	S	CH2(cyclo-C5H9)		O	CH3	H
D-245	S	CH2(cyclo-C6H11)		O	CH3	H
D-246	S	CH2Ph		O	CH3	H
D-247	S	CH2(2-Cl-Ph)		O	CH3	H
D-248	S	CH2(3-Cl-Ph)		O	CH3	H
D-249	S	CH2(4-Cl-Ph)		O	CH3	H
D-250	S	CH2(2-CF3-Ph)		O	CH3	H
D-251	S	CH2(3-CF3-Ph)		O	CH3	H
D-252	S	CH2(4-CF3-Ph)		O	CH3	H
D-253	S	CH2(2-F-Ph)		O	CH3	H
D-254	S	CH2(3-F-Ph)		O	CH3	H
D-255	S	CH2(4-F-Ph)		O	CH3	H
D-256	S	CH2(2-OMe-Ph)		O	CH3	H
D-257	S	CH2(3-OMe-Ph)		O	CH3	H
D-258	S	CH2(4-OMe-Ph)		O	CH3	H
D-259	S	CH(CH3)Ph		O	CH3	H
D-260	S	CH(CH3)(2-Cl-Ph)		O	CH3	H
D-261	S	CH(CH3)(3-Cl-Ph)		O	CH3	H
D-262	S	CH(CH3)(4-Cl-Ph)		O	CH3	H
D-263	S	CH(CH3)(2-CF3-Ph)		O	CH3	H
D-264	S	CH(CH3)(3-CF3-Ph)		O	CH3	H
D-265	S	CH(CH3)(4-CF3-Ph)		O	CH3	H
D-266	S	Ph		O	CH3	H
D-267	S	2-Cl-Ph		O	CH3	H
D-268	S	3-Cl-Ph		O	CH3	H
D-269	S	4-Cl-Ph		O	CH3	H
D-270	S	2-CF3-Ph		O	CH3	H
D-271	S	3-CF3-Ph		O	CH3	H

Compound	Y	R^2	R^c	R^d	R^a	R^b
D-272	S	4-CF3-Ph		O	CH3	H
D-273	S	2-CH3O-Ph		O	CH3	H
D-274	S	3-CH3O-Ph		O	CH3	H
D-275	S	4-CH3O-Ph		O	CH3	H
D-276	S	4-CF3O-Ph		O	CH3	H
D-277	S	4-CF3CH2O-Ph		O	CH3	H
D-278	S	4-PhO-Ph		O	CH3	H
D-279	S	4-(4-Cl-Ph)O-Ph		O	CH3	H
D-280	S	4-(4-CF3-Ph)O-Ph		O	CH3	H
D-281	S	OCH3		O	CH3	H
D-282	S	OC2H5		O	CH3	H
D-283	S	O-n-C3H7		O	CH3	H
D-284	S	O-i-C3H7		O	CH3	H
D-285	S	O-n-C4H9		O	CH3	H
D-286	S	O-i-C4H7		O	CH3	H
D-287	S	O-sec-C4H9		O	CH3	H
D-288	S	O-t-C4H9		O	CH3	H
D-289	S	O-n-C5H11		O	CH3	H
D-290	S	OCH2CH=CH2		O	CH3	H
D-291	S	OCH2C(CH3)=CH2		O	CH3	H
D-292	S	OCH2CH=CHCH3		O	CH3	H
D-293	S	OCH2CH=C(CH3)2		O	CH3	H
D-294	S	OCH2CCH		O	CH3	H
D-295	S	OCH2CCCH3		O	CH3	H
D-296	S	OCH2Ph		O	CH3	H
D-297	S	OCH(CH3)Ph		O	CH3	H
D-298	S	OCH2(2-Cl-Ph)		O	CH3	H
D-299	S	OCH2(3-Cl-Ph)		O	CH3	H
D-300	S	OCH2(4-Cl-Ph)		O	CH3	H
D-301	S	OCH2(2-OCH3-Ph)		O	CH3	H
D-302	S	OCH2(3-OCH3-Ph)		O	CH3	H
D-303	S	OCH2(4-OCH3-Ph)		O	CH3	H
D-304	S	OCH2(2-CF3-Ph)		O	CH3	H
D-305	S	OCH2(3-CF3-Ph)		O	CH3	H
D-306	S	OCH2(4-CF3-Ph)		O	CH3	H
D-307	S	OCH2(2-NO2-Ph)		O	CH3	H
D-308	S	OCH2(3-NO2-Ph)		O	CH3	H
D-309	S	OCH2(4-NO2-Ph)		O	CH3	H
D-310	S	CH3		O	CH3	CH3
D-311	S	C2H5		O	CH3	CH3
D-312	S	n-C3H7		O	CH3	CH3
D-313	S	i-C3H7		O	CH3	CH3

Compound	Y	R^2	R^c	R^d	R^a	R^b
D-314	S	n-C4H9		O	CH3	CH3
D-315	S	s-C4H9		O	CH3	CH3
D-316	S	i-C4H9		O	CH3	CH3
D-317	S	t-C4H9		O	CH3	CH3
D-318	S	n-C5H11		O	CH3	CH3
D-319	S	n-C6H13		O	CH3	CH3
D-320	S	CH2CH=CH2		O	CH3	CH3
D-321	S	CH2C(CH3)=CH2		O	CH3	CH3
D-322	S	CH2C(CH3)=CHCH3		O	CH3	CH3
D-323	S	CH2CH=C(CH3)2		O	CH3	CH3
D-324	S	CH2CCl=CH2		O	CH3	CH3
D-325	S	CH2CH=CCl2		O	CH3	CH3
D-326	S	CH2CH=CHCF3		O	CH3	CH3
D-327	S	CH2CH=CHPh		O	CH3	CH3
D-328	S	CH(CH3)CH=CH2		O	CH3	CH3
D-329	S	CH2CCH		O	CH3	CH3
D-330	S	CH2CCCH3		O	CH3	CH3
D-331	S	CH2CF3		O	CH3	CH3
D-332	S	CH2CH2OCH3		O	CH3	CH3
D-333	S	CH2CH2OC2H5		O	CH3	CH3
D-334	S	CH2CH2CH2OCH3		O	CH3	CH3
D-335	S	CH2CH2CH2OC2H5		O	CH3	CH3
D-336	S	CH2CH(OCH3)2		O	CH3	CH3
D-337	S	CH2CN		O	CH3	CH3
D-338	S	C(CH3)2CN		O	CH3	CH3
D-339	S	C(CH3)(i-C3H7)CN		O	CH3	CH3
D-340	S	CH2CO2CH3		O	CH3	CH3
D-341	S	CH2CO2C2H5		O	CH3	CH3
D-342	S	CH(CH3)CO2CH3		O	CH3	CH3
D-343	S	cyclo-C3H7		O	CH3	CH3
D-344	S	cyclo-C5H9		O	CH3	CH3
D-345	S	cyclo-C6H11		O	CH3	CH3
D-346	S	CH2(cyclo-C3H5)		O	CH3	CH3
D-347	S	CH2(cyclo-C5H9)		O	CH3	CH3
D-348	S	CH2(cyclo-C6H11)		O	CH3	CH3
D-349	S	CH2Ph		O	CH3	CH3
D-350	S	CH2(2-Cl-Ph)		O	CH3	CH3
D-351	S	CH2(3-Cl-Ph)		O	CH3	CH3
D-352	S	CH2(4-Cl-Ph)		O	CH3	CH3
D-353	S	CH2(2-CF3-Ph)		O	CH3	CH3
D-354	S	CH2(3-CF3-Ph)		O	CH3	CH3
D-355	S	CH2(4-CF3-Ph)		O	CH3	CH3

Compound	Y	R^2	R^c	R^d	R^a	R^b
D-356	S	CH2(2-F-Ph)		O	CH3	CH3
D-357	S	CH2(3-F-Ph)		O	CH3	CH3
D-358	S	CH2(4-F-Ph)		O	CH3	CH3
D-359	S	CH2(2-OMe-Ph)		O	CH3	CH3
D-360	S	CH2(3-OMe-Ph)		O	CH3	CH3
D-361	S	CH2(4-OMe-Ph)		O	CH3	CH3
D-362	S	CH(CH3)Ph		O	CH3	CH3
D-363	S	CH(CH3)(2-Cl-Ph)		O	CH3	CH3
D-364	S	CH(CH3)(3-Cl-Ph)		O	CH3	CH3
D-365	S	CH(CH3)(4-Cl-Ph)		O	CH3	CH3
D-366	S	CH(CH3)(2-CF3-Ph)		O	CH3	CH3
D-367	S	CH(CH3)(3-CF3-Ph)		O	CH3	CH3
D-368	S	CH(CH3)(4-CF3-Ph)		O	CH3	CH3
D-369	S	Ph		O	CH3	CH3
D-370	S	2-Cl-Ph		O	CH3	CH3
D-371	S	3-Cl-Ph		O	CH3	CH3
D-372	S	4-Cl-Ph		O	CH3	CH3
D-373	S	2-CF3-Ph		O	CH3	CH3
D-374	S	3-CF3-Ph		O	CH3	CH3
D-375	S	4-CF3-Ph		O	CH3	CH3
D-376	S	2-CH3O-Ph		O	CH3	CH3
D-377	S	3-CH3O-Ph		O	CH3	CH3
D-378	S	4-CH3O-Ph		O	CH3	CH3
D-379	S	4-CF3O-Ph		O	CH3	CH3
D-380	S	4-CF3CH2O-Ph		O	CH3	CH3
D-381	S	4-PhO-Ph		O	CH3	CH3
D-382	S	4-(4-Cl-Ph)O-Ph		O	CH3	CH3
D-383	S	4-(4-CF3-Ph)O-Ph		O	CH3	CH3
D-384	S	OCH3		O	CH3	CH3
D-385	S	OC2H5		O	CH3	CH3
D-386	S	O-n-C3H7		O	CH3	CH3
D-387	S	O-i-C3H7		O	CH3	CH3
D-388	S	O-n-C4H9		O	CH3	CH3
D-389	S	O-i-C4H7		O	CH3	CH3
D-390	S	O-sec-C4H9		O	CH3	CH3
D-391	S	O-t-C4H9		O	CH3	CH3
D-392	S	O-n-C5H11		O	CH3	CH3
D-393	S	OCH2CH=CH2		O	CH3	CH3
D-394	S	OCH2C(CH3)=CH2		O	CH3	CH3
D-395	S	OCH2CH=CHCH3		O	CH3	CH3
D-396	S	OCH2CH=C(CH3)2		O	CH3	CH3
D-397	S	OCH2CCH		O	CH3	CH3

Compound	Y	R^2	R^c	R^d	R^a	R^b
D-398	S	OCH2CCCH3	O		CH3	CH3
D-399	S	OCH2Ph	O		CH3	CH3
D-400	S	OCH(CH3)Ph	O		CH3	CH3
D-401	S	OCH2(2-Cl-Ph)	O		CH3	CH3
D-402	S	OCH2(3-Cl-Ph)	O		CH3	CH3
D-403	S	OCH2(4-Cl-Ph)	O		CH3	CH3
D-404	S	OCH2(2-OCH3-Ph)	O		CH3	CH3
D-405	S	OCH2(3-OCH3-Ph)	O		CH3	CH3
D-406	S	OCH2(4-OCH3-Ph)	O		CH3	CH3
D-407	S	OCH2(2-CF3-Ph)	O		CH3	CH3
D-408	S	OCH2(3-CF3-Ph)	O		CH3	CH3
D-409	S	OCH2(4-CF3-Ph)	O		CH3	CH3
D-410	S	OCH2(2-NO2-Ph)	O		CH3	CH3
D-411	S	OCH2(3-NO2-Ph)	O		CH3	CH3
D-412	S	OCH2(4-NO2-Ph)	O		CH3	CH3
D-413	S	CH3	O		C2H5	H
D-414	S	C2H5	O		C2H5	H
D-415	S	n-C3H7	O		C2H5	H
D-416	S	i-C3H7	O		C2H5	H
D-417	S	n-C4H9	O		C2H5	H
D-418	S	s-C4H9	O		C2H5	H
D-419	S	i-C4H9	O		C2H5	H
D-420	S	t-C4H9	O		C2H5	H
D-421	S	n-C5H11	O		C2H5	H
D-422	S	n-C6H13	O		C2H5	H
D-423	S	CH2CH=CH2	O		C2H5	H
D-424	S	CH2C(CH3)=CH2	O		C2H5	H
D-425	S	CH2C(CH3)=CHCH3	O		C2H5	H
D-426	S	CH2CH=C(CH3)2	O		C2H5	H
D-427	S	CH2CCl=CH2	O		C2H5	H
D-428	S	CH2CH=CCl2	O		C2H5	H
D-429	S	CH2CH=CHCF3	O		C2H5	H
D-430	S	CH2CH=CHPh	O		C2H5	H
D-431	S	CH(CH3)CH=CH2	O		C2H5	H
D-432	S	CH2CCH	O		C2H5	H
D-433	S	CH2CCCH3	O		C2H5	H
D-434	S	CH2CF3	O		C2H5	H
D-435	S	CH2CH2OCH3	O		C2H5	H
D-436	S	CH2CH2OC2H5	O		C2H5	H
D-437	S	CH2CH2CH2OCH3	O		C2H5	H
D-438	S	CH2CH2CH2OC2H5	O		C2H5	H
D-439	S	CH2CH(OCH3)2	O		C2H5	H

Compound	Y	R^2	R^c	R^d	R^a	R^b
D-440	S	CH2CN		O	C2H5	H
D-441	S	C(CH3)2CN		O	C2H5	H
D-442	S	C(CH3)(i-C3H7)CN		O	C2H5	H
D-443	S	CH2CO2CH3		O	C2H5	H
D-444	S	CH2CO2C2H5		O	C2H5	H
D-445	S	CH(CH3)CO2CH3		O	C2H5	H
D-446	S	cyclo-C3H7		O	C2H5	H
D-447	S	cyclo-C5H9		O	C2H5	H
D-448	S	cyclo-C6H11		O	C2H5	H
D-449	S	CH2(cyclo-C3H5)		O	C2H5	H
D-450	S	CH2(cyclo-C5H9)		O	C2H5	H
D-451	S	CH2(cyclo-C6H11)		O	C2H5	H
D-452	S	CH2Ph		O	C2H5	H
D-453	S	CH2(2-Cl-Ph)		O	C2H5	H
D-454	S	CH2(3-Cl-Ph)		O	C2H5	H
D-455	S	CH2(4-Cl-Ph)		O	C2H5	H
D-456	S	CH2(2-CF3-Ph)		O	C2H5	H
D-457	S	CH2(3-CF3-Ph)		O	C2H5	H
D-458	S	CH2(4-CF3-Ph)		O	C2H5	H
D-459	S	CH2(2-F-Ph)		O	C2H5	H
D-460	S	CH2(3-F-Ph)		O	C2H5	H
D-461	S	CH2(4-F-Ph)		O	C2H5	H
D-462	S	CH2(2-OMe-Ph)		O	C2H5	H
D-463	S	CH2(3-OMe-Ph)		O	C2H5	H
D-464	S	CH2(4-OMe-Ph)		O	C2H5	H
D-465	S	CH(CH3)Ph		O	C2H5	H
D-466	S	CH(CH3)(2-Cl-Ph)		O	C2H5	H
D-467	S	CH(CH3)(3-Cl-Ph)		O	C2H5	H
D-468	S	CH(CH3)(4-Cl-Ph)		O	C2H5	H
D-469	S	CH(CH3)(2-CF3-Ph)		O	C2H5	H
D-470	S	CH(CH3)(3-CF3-Ph)		O	C2H5	H
D-471	S	CH(CH3)(4-CF3-Ph)		O	C2H5	H
D-472	S	Ph		O	C2H5	H
D-473	S	2-Cl-Ph		O	C2H5	H
D-474	S	3-Cl-Ph		O	C2H5	H
D-475	S	4-Cl-Ph		O	C2H5	H
D-476	S	2-CF3-Ph		O	C2H5	H
D-477	S	3-CF3-Ph		O	C2H5	H
D-478	S	4-CF3-Ph		O	C2H5	H
D-479	S	2-CH3O-Ph		O	C2H5	H
D-480	S	3-CH3O-Ph		O	C2H5	H
D-481	S	4-CH3O-Ph		O	C2H5	H

Compound	Y	R^2	R^c	R^d	R^a	R^b
D-482	S	4-CF3O-Ph		O	C2H5	H
D-483	S	4-CF3CH2O-Ph		O	C2H5	H
D-484	S	4-PhO-Ph		O	C2H5	H
D-485	S	4-(4-Cl-Ph)O-Ph		O	C2H5	H
D-486	S	4-(4-CF3-Ph)O-Ph		O	C2H5	H
D-487	S	OCH3		O	C2H5	H
D-488	S	OC2H5		O	C2H5	H
D-489	S	O-n-C3H7		O	C2H5	H
D-490	S	O-i-C3H7		O	C2H5	H
D-491	S	O-n-C4H9		O	C2H5	H
D-492	S	O-i-C4H7		O	C2H5	H
D-493	S	O-sec-C4H9		O	C2H5	H
D-494	S	O-t-C4H9		O	C2H5	H
D-495	S	O-n-C5H11		O	C2H5	H
D-496	S	OCH2CH=CH2		O	C2H5	H
D-497	S	OCH2C(CH3)=CH2		O	C2H5	H
D-498	S	OCH2CH=CHCH3		O	C2H5	H
D-499	S	OCH2CH=C(CH3)2		O	C2H5	H
D-500	S	OCH2CCH		O	C2H5	H
D-501	S	OCH2CCCH3		O	C2H5	H
D-502	S	OCH2Ph		O	C2H5	H
D-503	S	OCH(CH3)Ph		O	C2H5	H
D-504	S	OCH2(2-Cl-Ph)		O	C2H5	H
D-505	S	OCH2(3-Cl-Ph)		O	C2H5	H
D-506	S	OCH2(4-Cl-Ph)		O	C2H5	H
D-507	S	OCH2(2-OCH3-Ph)		O	C2H5	H
D-508	S	OCH2(3-OCH3-Ph)		O	C2H5	H
D-509	S	OCH2(4-OCH3-Ph)		O	C2H5	H
D-510	S	OCH2(2-CF3-Ph)		O	C2H5	H
D-511	S	OCH2(3-CF3-Ph)		O	C2H5	H
D-512	S	OCH2(4-CF3-Ph)		O	C2H5	H
D-513	S	OCH2(2-NO2-Ph)		O	C2H5	H
D-514	S	OCH2(3-NO2-Ph)		O	C2H5	H
D-515	S	OCH2(4-NO2-Ph)		O	C2H5	H
D-516	S	CH3		O	i-C3H7	H
D-517	S	C2H5		O	i-C3H7	H
D-518	S	n-C3H7		O	i-C3H7	H
D-519	S	i-C3H7		O	i-C3H7	H
D-520	S	n-C4H9		O	i-C3H7	H
D-521	S	s-C4H9		O	i-C3H7	H
D-522	S	i-C4H9		O	i-C3H7	H
D-523	S	t-C4H9		O	i-C3H7	H

Compound	Y	R^2	R^c	R^d	R^a	R^b
D-524	S	n-C5H11		O	i-C3H7	H
D-525	S	n-C6H13		O	i-C3H7	H
D-526	S	CH2CH=CH2		O	i-C3H7	H
D-527	S	CH2C(CH3)=CH2		O	i-C3H7	H
D-528	S	CH2C(CH3)=CHCH3		O	i-C3H7	H
D-529	S	CH2CH=C(CH3)2		O	i-C3H7	H
D-530	S	CH2CCl=CH2		O	i-C3H7	H
D-531	S	CH2CH=CCl2		O	i-C3H7	H
D-532	S	CH2CH=CHCF3		O	i-C3H7	H
D-533	S	CH2CH=CHPh		O	i-C3H7	H
D-534	S	CH(CH3)CH=CH2		O	i-C3H7	H
D-535	S	CH2CCH		O	i-C3H7	H
D-536	S	CH2CCCH3		O	i-C3H7	H
D-537	S	CH2CF3		O	i-C3H7	H
D-538	S	CH2CH2OCH3		O	i-C3H7	H
D-539	S	CH2CH2OC2H5		O	i-C3H7	H
D-540	S	CH2CH2CH2OCH3		O	i-C3H7	H
D-541	S	CH2CH2CH2OC2H5		O	i-C3H7	H
D-542	S	CH2CH(OCH3)2		O	i-C3H7	H
D-543	S	CH2CN		O	i-C3H7	H
D-544	S	C(CH3)2CN		O	i-C3H7	H
D-545	S	C(CH3)(i-C3H7)CN		O	i-C3H7	H
D-546	S	CH2CO2CH3		O	i-C3H7	H
D-547	S	CH2CO2C2H5		O	i-C3H7	H
D-548	S	CH(CH3)CO2CH3		O	i-C3H7	H
D-549	S	cyclo-C3H7		O	i-C3H7	H
D-550	S	cyclo-C5H9		O	i-C3H7	H
D-551	S	cyclo-C6H11		O	i-C3H7	H
D-552	S	CH2(cyclo-C3H5)		O	i-C3H7	H
D-553	S	CH2(cyclo-C5H9)		O	i-C3H7	H
D-554	S	CH2(cyclo-C6H11)		O	i-C3H7	H
D-555	S	CH2Ph		O	i-C3H7	H
D-556	S	CH2(2-Cl-Ph)		O	i-C3H7	H
D-557	S	CH2(3-Cl-Ph)		O	i-C3H7	H
D-558	S	CH2(4-Cl-Ph)		O	i-C3H7	H
D-559	S	CH2(2-CF3-Ph)		O	i-C3H7	H
D-560	S	CH2(3-CF3-Ph)		O	i-C3H7	H
D-561	S	CH2(4-CF3-Ph)		O	i-C3H7	H
D-562	S	CH2(2-F-Ph)		O	i-C3H7	H
D-563	S	CH2(3-F-Ph)		O	i-C3H7	H
D-564	S	CH2(4-F-Ph)		O	i-C3H7	H
D-565	S	CH2(2-OMe-Ph)		O	i-C3H7	H

Compound	Y	R^2	R^c	R^d	R^a	R^b
D-566	S	CH2(3-OMe-Ph)		O	i-C3H7	H
D-567	S	CH2(4-OMe-Ph)		O	i-C3H7	H
D-568	S	CH(CH3)Ph		O	i-C3H7	H
D-569	S	CH(CH3)(2-Cl-Ph)		O	i-C3H7	H
D-570	S	CH(CH3)(3-Cl-Ph)		O	i-C3H7	H
D-571	S	CH(CH3)(4-Cl-Ph)		O	i-C3H7	H
D-572	S	CH(CH3)(2-CF3-Ph)		O	i-C3H7	H
D-573	S	CH(CH3)(3-CF3-Ph)		O	i-C3H7	H
D-574	S	CH(CH3)(4-CF3-Ph)		O	i-C3H7	H
D-575	S	Ph		O	i-C3H7	H
D-576	S	2-Cl-Ph		O	i-C3H7	H
D-577	S	3-Cl-Ph		O	i-C3H7	H
D-578	S	4-Cl-Ph		O	i-C3H7	H
D-579	S	2-CF3-Ph		O	i-C3H7	H
D-580	S	3-CF3-Ph		O	i-C3H7	H
D-581	S	4-CF3-Ph		O	i-C3H7	H
D-582	S	2-CH3O-Ph		O	i-C3H7	H
D-583	S	3-CH3O-Ph		O	i-C3H7	H
D-584	S	4-CH3O-Ph		O	i-C3H7	H
D-585	S	4-CF3O-Ph		O	i-C3H7	H
D-586	S	4-CF3CH2O-Ph		O	i-C3H7	H
D-587	S	4-PhO-Ph		O	i-C3H7	H
D-588	S	4-(4-Cl-Ph)O-Ph		O	i-C3H7	H
D-589	S	4-(4-CF3-Ph)O-Ph		O	i-C3H7	H
D-590	S	OCH3		O	i-C3H7	H
D-591	S	OC2H5		O	i-C3H7	H
D-592	S	O-n-C3H7		O	i-C3H7	H
D-593	S	O-i-C3H7		O	i-C3H7	H
D-594	S	O-n-C4H9		O	i-C3H7	H
D-595	S	O-i-C4H7		O	i-C3H7	H
D-596	S	O-sec-C4H9		O	i-C3H7	H
D-597	S	O-t-C4H9		O	i-C3H7	H
D-598	S	O-n-C5H11		O	i-C3H7	H
D-599	S	OCH2CH=CH2		O	i-C3H7	H
D-600	S	OCH2C(CH3)=CH2		O	i-C3H7	H
D-601	S	OCH2CH=CHCH3		O	i-C3H7	H
D-602	S	OCH2CH=C(CH3)2		O	i-C3H7	H
D-603	S	OCH2CCH		O	i-C3H7	H
D-604	S	OCH2CCCH3		O	i-C3H7	H
D-605	S	OCH2Ph		O	i-C3H7	H
D-606	S	OCH(CH3)Ph		O	i-C3H7	H
D-607	S	OCH2(2-Cl-Ph)		O	i-C3H7	H

Compound	Y	R^2	R^c	R^d	R^a	R^b
D-608	S	OCH2(3-Cl-Ph)		O	i-C3H7	H
D-609	S	OCH2(4-Cl-Ph)		O	i-C3H7	H
D-610	S	OCH2(2-OCH3-Ph)		O	i-C3H7	H
D-611	S	OCH2(3-OCH3-Ph)		O	i-C3H7	H
D-612	S	OCH2(4-OCH3-Ph)		O	i-C3H7	H
D-613	S	OCH2(2-CF3-Ph)		O	i-C3H7	H
D-614	S	OCH2(3-CF3-Ph)		O	i-C3H7	H
D-615	S	OCH2(4-CF3-Ph)		O	i-C3H7	H
D-616	S	OCH2(2-NO2-Ph)		O	i-C3H7	H
D-617	S	OCH2(3-NO2-Ph)		O	i-C3H7	H
D-618	S	OCH2(4-NO2-Ph)		O	i-C3H7	H
D-619	S	CH3		O	Ph	H
D-620	S	C2H5		O	Ph	H
D-621	S	n-C3H7		O	Ph	H
D-622	S	i-C3H7		O	Ph	H
D-623	S	n-C4H9		O	Ph	H
D-624	S	s-C4H9		O	Ph	H
D-625	S	i-C4H9		O	Ph	H
D-626	S	t-C4H9		O	Ph	H
D-627	S	n-C5H11		O	Ph	H
D-628	S	n-C6H13		O	Ph	H
D-629	S	CH2CH=CH2		O	Ph	H
D-630	S	CH2C(CH3)=CH2		O	Ph	H
D-631	S	CH2C(CH3)=CHCH3		O	Ph	H
D-632	S	CH2CH=C(CH3)2		O	Ph	H
D-633	S	CH2CCl=CH2		O	Ph	H
D-634	S	CH2CH=CCl2		O	Ph	H
D-635	S	CH2CH=CHCF3		O	Ph	H
D-636	S	CH2CH=CHPh		O	Ph	H
D-637	S	CH(CH3)CH=CH2		O	Ph	H
D-638	S	CH2CCH		O	Ph	H
D-639	S	CH2CCCH3		O	Ph	H
D-640	S	CH2CF3		O	Ph	H
D-641	S	CH2CH2OCH3		O	Ph	H
D-642	S	CH2CH2OC2H5		O	Ph	H
D-643	S	CH2CH2CH2OCH3		O	Ph	H
D-644	S	CH2CH2CH2OC2H5		O	Ph	H
D-645	S	CH2CH(OCH3)2		O	Ph	H
D-646	S	CH2CN		O	Ph	H
D-647	S	C(CH3)2CN		O	Ph	H
D-648	S	C(CH3)(i-C3H7)CN		O	Ph	H
D-649	S	CH2CO2CH3		O	Ph	H

Compound	Y	R^2	R^c	R^d	R^a	R^b
D-650	S	CH2CO2C2H5		O	Ph	H
D-651	S	CH(CH3)CO2CH3		O	Ph	H
D-652	S	cyclo-C3H7		O	Ph	H
D-653	S	cyclo-C5H9		O	Ph	H
D-654	S	cyclo-C6H11		O	Ph	H
D-655	S	CH2(cyclo-C3H5)		O	Ph	H
D-656	S	CH2(cyclo-C5H9)		O	Ph	H
D-657	S	CH2(cyclo-C6H11)		O	Ph	H
D-658	S	CH2Ph		O	Ph	H
D-659	S	CH2(2-Cl-Ph)		O	Ph	H
D-660	S	CH2(3-Cl-Ph)		O	Ph	H
D-661	S	CH2(4-Cl-Ph)		O	Ph	H
D-662	S	CH2(2-CF3-Ph)		O	Ph	H
D-663	S	CH2(3-CF3-Ph)		O	Ph	H
D-664	S	CH2(4-CF3-Ph)		O	Ph	H
D-665	S	CH2(2-F-Ph)		O	Ph	H
D-666	S	CH2(3-F-Ph)		O	Ph	H
D-667	S	CH2(4-F-Ph)		O	Ph	H
D-668	S	CH2(2-OMe-Ph)		O	Ph	H
D-669	S	CH2(3-OMe-Ph)		O	Ph	H
D-670	S	CH2(4-OMe-Ph)		O	Ph	H
D-671	S	CH(CH3)Ph		O	Ph	H
D-672	S	CH(CH3)(2-Cl-Ph)		O	Ph	H
D-673	S	CH(CH3)(3-Cl-Ph)		O	Ph	H
D-674	S	CH(CH3)(4-Cl-Ph)		O	Ph	H
D-675	S	CH(CH3)(2-CF3-Ph)		O	Ph	H
D-676	S	CH(CH3)(3-CF3-Ph)		O	Ph	H
D-677	S	CH(CH3)(4-CF3-Ph)		O	Ph	H
D-678	S	Ph		O	Ph	H
D-679	S	2-Cl-Ph		O	Ph	H
D-680	S	3-Cl-Ph		O	Ph	H
D-681	S	4-Cl-Ph		O	Ph	H
D-682	S	2-CF3-Ph		O	Ph	H
D-683	S	3-CF3-Ph		O	Ph	H
D-684	S	4-CF3-Ph		O	Ph	H
D-685	S	2-CH3O-Ph		O	Ph	H
D-686	S	3-CH3O-Ph		O	Ph	H
D-687	S	4-CH3O-Ph		O	Ph	H
D-688	S	4-CF3O-Ph		O	Ph	H
D-689	S	4-CF3CH2O-Ph		O	Ph	H
D-690	S	4-PhO-Ph		O	Ph	H
D-691	S	4-(4-Cl-Ph)O-Ph		O	Ph	H

Compound	Y	R^2	R^c	R^d	R^a	R^b
D-692	S	4-(4-CF3-Ph)O-Ph	O		Ph	H
D-693	S	OCH3	O		Ph	H
D-694	S	OC2H5	O		Ph	H
D-695	S	O-n-C3H7	O		Ph	H
D-696	S	O-i-C3H7	O		Ph	H
D-697	S	O-n-C4H9	O		Ph	H
D-698	S	O-i-C4H7	O		Ph	H
D-699	S	O-sec-C4H9	O		Ph	H
D-700	S	O-t-C4H9	O		Ph	H
D-701	S	O-n-C5H11	O		Ph	H
D-702	S	OCH2CH=CH2	O		Ph	H
D-703	S	OCH2C(CH3)=CH2	O		Ph	H
D-704	S	OCH2CH=CHCH3	O		Ph	H
D-705	S	OCH2CH=C(CH3)2	O		Ph	H
D-706	S	OCH2CCH	O		Ph	H
D-707	S	OCH2CCCH3	O		Ph	H
D-708	S	OCH2Ph	O		Ph	H
D-709	S	OCH(CH3)Ph	O		Ph	H
D-710	S	OCH2(2-Cl-Ph)	O		Ph	H
D-711	S	OCH2(3-Cl-Ph)	O		Ph	H
D-712	S	OCH2(4-Cl-Ph)	O		Ph	H
D-713	S	OCH2(2-OCH3-Ph)	O		Ph	H
D-714	S	OCH2(3-OCH3-Ph)	O		Ph	H
D-715	S	OCH2(4-OCH3-Ph)	O		Ph	H
D-716	S	OCH2(2-CF3-Ph)	O		Ph	H
D-717	S	OCH2(3-CF3-Ph)	O		Ph	H
D-718	S	OCH2(4-CF3-Ph)	O		Ph	H
D-719	S	OCH2(2-NO2-Ph)	O		Ph	H
D-720	S	OCH2(3-NO2-Ph)	O		Ph	H
D-721	S	OCH2(4-NO2-Ph)	O		Ph	H
D-722	S	CH3	H	H	OC2H5	H
D-723	S	C2H5	H	H	OC2H5	H
D-724	S	n-C3H7	H	H	OC2H5	H
D-725	S	i-C3H7	H	H	OC2H5	H
D-726	S	n-C4H9	H	H	OC2H5	H
D-727	S	s-C4H9	H	H	OC2H5	H
D-728	S	i-C4H9	H	H	OC2H5	H
D-729	S	t-C4H9	H	H	OC2H5	H
D-730	S	n-C5H11	H	H	OC2H5	H
D-731	S	n-C6H13	H	H	OC2H5	H
D-732	S	CH2CH=CH2	H	H	OC2H5	H
D-733	S	CH2C(CH3)=CH2	H	H	OC2H5	H

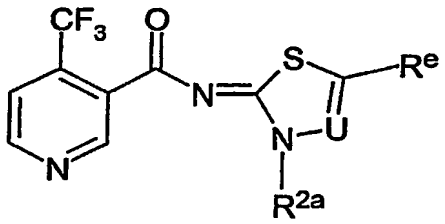
Compound	Y	R^2	R^c	R^d	R^a	R^b
D-734	S	CH2C(CH3)=CHCH3	H	H	OC2H5	H
D-735	S	CH2CH=C(CH3)2	H	H	OC2H5	H
D-736	S	CH2CCl=CH2	H	H	OC2H5	H
D-737	S	CH2CH=CCl2	H	H	OC2H5	H
D-738	S	CH2CH=CHCF3	H	H	OC2H5	H
D-739	S	CH2CH=CHPh	H	H	OC2H5	H
D-740	S	CH(CH3)CH=CH2	H	H	OC2H5	H
D-741	S	CH2CCH	H	H	OC2H5	H
D-742	S	CH2CCCH3	H	H	OC2H5	H
D-743	S	CH2CF3	H	H	OC2H5	H
D-744	S	CH2CH2OCH3	H	H	OC2H5	H
D-745	S	CH2CH2OC2H5	H	H	OC2H5	H
D-746	S	CH2CH2CH2OCH3	H	H	OC2H5	H
D-747	S	CH2CH2CH2OC2H5	H	H	OC2H5	H
D-748	S	CH2CH(OCH3)2	H	H	OC2H5	H
D-749	S	CH2CN	H	H	OC2H5	H
D-750	S	C(CH3)2CN	H	H	OC2H5	H
D-751	S	C(CH3)(i-C3H7)CN	H	H	OC2H5	H
D-752	S	CH2CO2CH3	H	H	OC2H5	H
D-753	S	CH2CO2C2H5	H	H	OC2H5	H
D-754	S	CH(CH3)CO2CH3	H	H	OC2H5	H
D-755	S	cyclo-C3H7	H	H	OC2H5	H
D-756	S	cyclo-C5H9	H	H	OC2H5	H
D-757	S	cyclo-C6H11	H	H	OC2H5	H
D-758	S	CH2(cyclo-C3H5)	H	H	OC2H5	H
D-759	S	CH2(cyclo-C5H9)	H	H	OC2H5	H
D-760	S	CH2(cyclo-C6H11)	H	H	OC2H5	H
D-761	S	CH2Ph	H	H	OC2H5	H
D-762	S	CH2(2-Cl-Ph)	H	H	OC2H5	H
D-763	S	CH2(3-Cl-Ph)	H	H	OC2H5	H
D-764	S	CH2(4-Cl-Ph)	H	H	OC2H5	H
D-765	S	CH2(2-CF3-Ph)	H	H	OC2H5	H
D-766	S	CH2(3-CF3-Ph)	H	H	OC2H5	H
D-767	S	CH2(4-CF3-Ph)	H	H	OC2H5	H
D-768	S	CH2(2-F-Ph)	H	H	OC2H5	H
D-769	S	CH2(3-F-Ph)	H	H	OC2H5	H
D-770	S	CH2(4-F-Ph)	H	H	OC2H5	H
D-771	S	CH2(2-OMe-Ph)	H	H	OC2H5	H
D-772	S	CH2(3-OMe-Ph)	H	H	OC2H5	H
D-773	S	CH2(4-OMe-Ph)	H	H	OC2H5	H
D-774	S	CH(CH3)Ph	H	H	OC2H5	H
D-775	S	CH(CH3)(2-Cl-Ph)	H	H	OC2H5	H

Compound	Y	R^2	R^c	R^d	R^a	R^b
D-776	S	CH(CH3)(3-Cl-Ph)	H	H	OC2H5	H
D-777	S	CH(CH3)(4-Cl-Ph)	H	H	OC2H5	H
D-778	S	CH(CH3)(2-CF3-Ph)	H	H	OC2H5	H
D-779	S	CH(CH3)(3-CF3-Ph)	H	H	OC2H5	H
D-780	S	CH(CH3)(4-CF3-Ph)	H	H	OC2H5	H
D-781	S	Ph	H	H	OC2H5	H
D-782	S	2-Cl-Ph	H	H	OC2H5	H
D-783	S	3-Cl-Ph	H	H	OC2H5	H
D-784	S	4-Cl-Ph	H	H	OC2H5	H
D-785	S	2-CF3-Ph	H	H	OC2H5	H
D-786	S	3-CF3-Ph	H	H	OC2H5	H
D-787	S	4-CF3-Ph	H	H	OC2H5	H
D-788	S	2-CH3O-Ph	H	H	OC2H5	H
D-789	S	3-CH3O-Ph	H	H	OC2H5	H
D-790	S	4-CH3O-Ph	H	H	OC2H5	H
D-791	S	4-CF3O-Ph	H	H	OC2H5	H
D-792	S	4-CF3CH2O-Ph	H	H	OC2H5	H
D-793	S	4-PhO-Ph	H	H	OC2H5	H
D-794	S	4-(4-Cl-Ph)O-Ph	H	H	OC2H5	H
D-795	S	4-(4-CF3-Ph)O-Ph	H	H	OC2H5	H
D-796	S	OCH3	H	H	OC2H5	H
D-797	S	OC2H5	H	H	OC2H5	H
D-798	S	O-n-C3H7	H	H	OC2H5	H
D-799	S	O-i-C3H7	H	H	OC2H5	H
D-800	S	O-n-C4H9	H	H	OC2H5	H
D-801	S	O-i-C4H7	H	H	OC2H5	H
D-802	S	O-sec-C4H9	H	H	OC2H5	H
D-803	S	O-t-C4H9	H	H	OC2H5	H
D-804	S	O-n-C5H11	H	H	OC2H5	H
D-805	S	OCH2CH=CH2	H	H	OC2H5	H
D-806	S	OCH2C(CH3)=CH2	H	H	OC2H5	H
D-807	S	OCH2CH=CHCH3	H	H	OC2H5	H
D-808	S	OCH2CH=C(CH3)2	H	H	OC2H5	H
D-809	S	OCH2CCH	H	H	OC2H5	H
D-810	S	OCH2CCCH3	H	H	OC2H5	H
D-811	S	OCH2Ph	H	H	OC2H5	H
D-812	S	OCH(CH3)Ph	H	H	OC2H5	H
D-813	S	OCH2(2-Cl-Ph)	H	H	OC2H5	H
D-814	S	OCH2(3-Cl-Ph)	H	H	OC2H5	H
D-815	S	OCH2(4-Cl-Ph)	H	H	OC2H5	H
D-816	S	OCH2(2-OCH3-Ph)	H	H	OC2H5	H
D-817	S	OCH2(3-OCH3-Ph)	H	H	OC2H5	H

Compound	Y	R^2	R^c	R^d	R^a	R^b
D-818	S	OCH2(4-OCH3-Ph)	H	H	OC2H5	H
D-819	S	OCH2(2-CF3-Ph)	H	H	OC2H5	H
D-820	S	OCH2(3-CF3-Ph)	H	H	OC2H5	H
D-821	S	OCH2(4-CF3-Ph)	H	H	OC2H5	H
D-822	S	OCH2(2-NO2-Ph)	H	H	OC2H5	H
D-823	S	OCH2(3-NO2-Ph)	H	H	OC2H5	H
D-824	S	OCH2(4-NO2-Ph)	H	H	OC2H5	H
D-825	O	H	H	H	H	H
D-826	O	CH3	H	H	H	H
D-827	O	C2H5	H	H	H	H
D-828	O	n-C3H7	H	H	H	H
D-829	O	i-C3H7	H	H	H	H
D-830	O	n-C4H9	H	H	H	H
D-831	O	s-C4H9	H	H	H	H
D-832	O	i-C4H9	H	H	H	H
D-833	O	t-C4H9	H	H	H	H
D-834	O	CH2Ph	H	H	H	H
D-835	O	Ph	H	H	H	H
D-836	S	H	C2H5	H	O	
D-837	S	H	i-C3H7	CH3	NH	
D-838	S	H	CH3	CH3	NH	

Table 5

Compounds of formula (Ie):



(1e)

Compound	U	R^{2a}	R^e
E-1	N	CH3	H
E-2	N	C2H5	H
E-3	N	n-C3H7	H
E-4	N	i-C3H7	H
E-5	N	n-C4H9	H
E-6	N	s-C4H9	H
E-7	N	i-C4H9	H

Compound	U	R^{2a}	R^{e}
E-8	N	t-C4H9	H
E-9	N	n-C5H11	H
E-10	N	n-C6H13	H
E-11	N	CH2CH=CH2	H
E-12	N	CH2C(CH3)=CH2	H
E-13	N	CH2C(CH3)=CHCH3	H
E-14	N	CH2CH=C(CH3)2	H
E-15	N	CH2CCl=CH2	H
E-16	N	CH2CH=CCl2	H
E-17	N	CH2CH=CHCF3	H
E-18	N	CH2CH=CHPh	H
E-19	N	CH(CH3)CH=CH2	H
E-20	N	CH2CCH	H
E-21	N	CH2CCCH3	H
E-22	N	CH2CF3	H
E-23	N	CH2CH2OCH3	H
E-24	N	CH2CH2OC2H5	H
E-25	N	CH2CH2CH2OCH3	H
E-26	N	CH2CH2CH2OC2H5	H
E-27	N	CH2CH(OCH3)2	H
E-28	N	CH2CN	H
E-29	N	CH2CO2H	H
E-30	N	CH2CO2CH3	H
E-31	N	CH2CO2C2H5	H
E-32	N	CH(CH3)CO2CH3	H
E-33	N	cyclo-C3H7	H
E-34	N	cyclo-C5H9	H
E-35	N	cyclo-C6H11	H
E-36	N	CH2(cyclo-C3H5)	H
E-37	N	CH2(cyclo-C5H9)	H
E-38	N	CH2(cyclo-C6H11)	H
E-39	N	CH2Ph	H
E-40	N	CH2(2-Cl-Ph)	H
E-41	N	CH2(3-Cl-Ph)	H
E-42	N	CH2(4-Cl-Ph)	H
E-43	N	CH2(2-CF3-Ph)	H
E-44	N	CH2(3-CF3-Ph)	H
E-45	N	CH2(4-CF3-Ph)	H
E-46	N	CH2(2-F-Ph)	H
E-47	N	CH2(3-F-Ph)	H
E-48	N	CH2(4-F-Ph)	H
E-49	N	CH2(2-OMe-Ph)	H

Compound	U	R^{2a}	R^{e}
E-50	N	CH2(3-OMe-Ph)	H
E-51	N	CH2(4-OMe-Ph)	H
E-52	N	CH(CH3)Ph	H
E-53	N	CH(CH3)(2-Cl-Ph)	H
E-54	N	CH(CH3)(3-Cl-Ph)	H
E-55	N	CH(CH3)(4-Cl-Ph)	H
E-56	N	CH(CH3)(2-CF3-Ph)	H
E-57	N	CH(CH3)(3-CF3-Ph)	H
E-58	N	CH(CH3)(4-CF3-Ph)	H
E-59	N	Ph	H
E-60	N	2-Cl-Ph	H
E-61	N	3-Cl-Ph	H
E-62	N	4-Cl-Ph	H
E-63	N	2-CF3-Ph	H
E-64	N	3-CF3-Ph	H
E-65	N	4-CF3-Ph	H
E-66	N	2-CH3O-Ph	H
E-67	N	3-CH3O-Ph	H
E-68	N	4-CH3O-Ph	H
E-69	N	4-CF3O-Ph	H
E-70	N	4-CF3CH2O-Ph	H
E-71	N	4-PhO-Ph	H
E-72	N	4-(4-Cl-Ph)O-Ph	H
E-73	N	4-(4-CF3-Ph)O-Ph	H
E-74	CH	CH3	H
E-75	CH	C2H5	H
E-76	CH	n-C3H7	H
E-77	CH	i-C3H7	H
E-78	CH	n-C4H9	H
E-79	CH	s-C4H9	H
E-80	CH	i-C4H9	H
E-81	CH	t-C4H9	H
E-82	CH	n-C5H11	H
E-83	CH	n-C6H13	H
E-84	CH	CH2CH=CH2	H
E-85	CH	CH2C(CH3)=CH2	H
E-86	CH	CH2C(CH3)=CHCH3	H
E-87	CH	CH2CH=C(CH3)2	H
E-88	CH	CH2CCl=CH2	H
E-89	CH	CH2CH=CCl2	H
E-90	CH	CH2CH=CHCF3	H
E-91	CH	CH2CH=CHPh	H

Compound	U	R^{2a}	R^{e}
E-92	CH	CH(CH3)CH=CH2	H
E-93	CH	CH2CCH	H
E-94	CH	CH2CCCH3	H
E-95	CH	CH2CF3	H
E-96	CH	CH2CH2OCH3	H
E-97	CH	CH2CH2OC2H5	H
E-98	CH	CH2CH2CH2OCH3	H
E-99	CH	CH2CH2CH2OC2H5	H
E-100	CH	CH2CH(OCH3)2	H
E-101	CH	CH2CN	H
E-102	CH	CH2CO2H	H
E-103	CH	CH2CO2CH3	H
E-104	CH	CH2CO2C2H5	H
E-105	CH	CH(CH3)CO2CH3	H
E-106	CH	cyclo-C3H7	H
E-107	CH	cyclo-C5H9	H
E-108	CH	cyclo-C6H11	H
E-109	CH	CH2(cyclo-C3H5)	H
E-110	CH	CH2(cyclo-C5H9)	H
E-111	CH	CH2(cyclo-C6H11)	H
E-112	CH	CH2Ph	H
E-113	CH	CH2(2-Cl-Ph)	H
E-114	CH	CH2(3-Cl-Ph)	H
E-115	CH	CH2(4-Cl-Ph)	H
E-116	CH	CH2(2-CF3-Ph)	H
E-117	CH	CH2(3-CF3-Ph)	H
E-118	CH	CH2(4-CF3-Ph)	H
E-119	CH	CH2(2-F-Ph)	H
E-120	CH	CH2(3-F-Ph)	H
E-121	CH	CH2(4-F-Ph)	H
E-122	CH	CH2(2-OMe-Ph)	H
E-123	CH	CH2(3-OMe-Ph)	H
E-124	CH	CH2(4-OMe-Ph)	H
E-125	CH	CH(CH3)Ph	H
E-126	CH	CH(CH3)(2-Cl-Ph)	H
E-127	CH	CH(CH3)(3-Cl-Ph)	H
E-128	CH	CH(CH3)(4-Cl-Ph)	H
E-129	CH	CH(CH3)(2-CF3-Ph)	H
E-130	CH	CH(CH3)(3-CF3-Ph)	H
E-131	CH	CH(CH3)(4-CF3-Ph)	H
E-132	CH	Ph	H
E-133	CH	2-Cl-Ph	H

Compound	U	R^{2a}	R^{e}
E-134	CH	3-Cl-Ph	H
E-135	CH	4-Cl-Ph	H
E-136	CH	2-CF3-Ph	H
E-137	CH	3-CF3-Ph	H
E-138	CH	4-CF3-Ph	H
E-139	CH	2-CH3O-Ph	H
E-140	CH	3-CH3O-Ph	H
E-141	CH	4-CH3O-Ph	H
E-142	CH	4-CF3O-Ph	H
E-143	CH	4-CF3CH2O-Ph	H
E-144	CH	4-PhO-Ph	H
E-145	CH	4-(4-Cl-Ph)O-Ph	H
E-146	CH	4-(4-CF3-Ph)O-Ph	H
E-147	CH	OCH3	H
E-148	CH	OC2H5	H
E-149	CH	O-n-C3H7	H
E-150	CH	O-i-C3H7	H
E-151	CH	O-n-C4H9	H
E-152	CH	O-i-C4H7	H
E-153	CH	O-sec-C4H9	H
E-154	CH	O-t-C4H9	H
E-155	CH	O-n-C5H11	H
E-156	CH	OCH2CH=CH2	H
E-157	CH	OCH2C(CH3)=CH2	H
E-158	CH	OCH2CH=CHCH3-	H
E-159	CH	OCH2CH=C(CH3)2	H
E-160	CH	OCH2CCH	H
E-161	CH	OCH2CCCH3	H
E-162	CH	OCH2Ph	H
E-163	CH	OCH(CH3)Ph	H
E-164	CH	OCH2(2-Cl-Ph)	H
E-165	CH	OCH2(3-Cl-Ph)	H
E-166	CH	OCH2(4-Cl-Ph)	H
E-167	CH	OCH2(2-OCH3-Ph)	H
E-168	CH	OCH2(3-OCH3-Ph)	H
E-169	CH	OCH2(4-OCH3-Ph)	H
E-170	CH	OCH2(2-CF3-Ph)	H
E-171	CH	OCH2(3-CF3-Ph)	H
E-172	CH	OCH2(4-CF3-Ph)	H
E-173	CH	OCH2(2-NO2-Ph)	H
E-174	CH	OCH2(3-NO2-Ph)	H
E-175	CH	OCH2(4-NO2-Ph)	H

Compound	U	R^{2a}	R^{e}
E-176	N	CH3	CH3
E-177	N	C2H5	CH3
E-178	N	n-C3H7	CH3
E-179	N	i-C3H7	CH3
E-180	N	n-C4H9	CH3
E-181	N	s-C4H9	CH3
E-182	N	i-C4H9	CH3
E-183	N	t-C4H9	CH3
E-184	N	n-C5H11	CH3
E-185	N	n-C6H13	CH3
E-186	N	CH2CH=CH2	CH3
E-187	N	CH2C(CH3)=CH2	CH3
E-188	N	CH2C(CH3)=CHCH3	CH3
E-189	N	CH2CH=C(CH3)2	CH3
E-190	N	CH2CCl=CH2	CH3
E-191	N	CH2CH=CCl2	CH3
E-192	N	CH2CH=CHCF3	CH3
E-193	N	CH2CH=CHPh	CH3
E-194	N	CH(CH3)CH=CH2	CH3
E-195	N	CH2CCH	CH3
E-196	N	CH2CCCH3	CH3
E-197	N	CH2CF3	CH3
E-198	N	CH2CH2OCH3	CH3
E-199	N	CH2CH2OC2H5	CH3
E-200	N	CH2CH2CH2OCH3	CH3
E-201	N	CH2CH2CH2OC2H5	CH3
E-202	N	CH2CH(OCH3)2	CH3
E-203	N	CH2CN	CH3
E-204	N	CH2CO2H	CH3
E-205	N	CH2CO2CH3	CH3
E-206	N	CH2CO2C2H5	CH3
E-207	N	CH(CH3)CO2CH3	CH3
E-208	N	cyclo-C3H7	CH3
E-209	N	cyclo-C5H9	CH3
E-210	N	cyclo-C6H11	CH3
E-211	N	CH2(cyclo-C3H5)	CH3
E-212	N	CH2(cyclo-C5H9)	CH3
E-213	N	CH2(cyclo-C6H11)	CH3
E-214	N	CH2Ph	CH3
E-215	N	CH2(2-Cl-Ph)	CH3
E-216	N	CH2(3-Cl-Ph)	CH3
E-217	N	CH2(4-Cl-Ph)	CH3

Compound	U	R^{2a}	R^{e}
E-218	N	CH2(2-CF3-Ph)	CH3
E-219	N	CH2(3-CF3-Ph)	CH3
E-220	N	CH2(4-CF3-Ph)	CH3
E-221	N	CH2(2-F-Ph)	CH3
E-222	N	CH2(3-F-Ph)	CH3
E-223	N	CH2(4-F-Ph)	CH3
E-224	N	CH2(2-OMe-Ph)	CH3
E-225	N	CH2(3-OMe-Ph)	CH3
E-226	N	CH2(4-OMe-Ph)	CH3
E-227	N	CH(CH3)Ph	CH3
E-228	N	CH(CH3)(2-Cl-Ph)	CH3
E-229	N	CH(CH3)(3-Cl-Ph)	CH3
E-230	N	CH(CH3)(4-Cl-Ph)	CH3
E-231	N	CH(CH3)(2-CF3-Ph)	CH3
E-232	N	CH(CH3)(3-CF3-Ph)	CH3
E-233	N	CH(CH3)(4-CF3-Ph)	CH3
E-234	N	Ph	CH3
E-235	N	2-Cl-Ph	CH3
E-236	N	3-Cl-Ph	CH3
E-237	N	4-Cl-Ph	CH3
E-238	N	2-CF3-Ph	CH3
E-239	N	3-CF3-Ph	CH3
E-240	N	4-CF3-Ph	CH3
E-241	N	2-CH3O-Ph	CH3
E-242	N	3-CH3O-Ph	CH3
E-243	N	4-CH3O-Ph	CH3
E-244	N	4-CF3O-Ph	CH3
E-245	N	4-CF3CH2O-Ph	CH3
E-246	N	4-PhO-Ph	CH3
E-247	N	4-(4-Cl-Ph)O-Ph	CH3
E-248	N	4-(4-CF3-Ph)O-Ph	CH3
E-249	CH	CH3	CH3
E-250	CH	C2H5	CH3
E-251	CH	n-C3H7	CH3
E-252	CH	i-C3H7	CH3
E-253	CH	n-C4H9	CH3
E-254	CH	s-C4H9	CH3
E-255	CH	i-C4H9	CH3
E-256	CH	t-C4H9	CH3
E-257	CH	n-C5H11	CH3
E-258	CH	n-C6H13	CH3
E-259	CH	CH2CH=CH2	CH3

Compound	U	R^{2a}	R^{e}
E-260	CH	CH2C(CH3)=CH2	CH3
E-261	CH	CH2C(CH3)=CHCH3	CH3
E-262	CH	CH2CH=C(CH3)2	CH3
E-263	CH	CH2CCl=CH2	CH3
E-264	CH	CH2CH=CCl2	CH3
E-265	CH	CH2CH=CHCF3	CH3
E-266	CH	CH2CH=CHPh	CH3
E-267	CH	CH(CH3)CH=CH2	CH3
E-268	CH	CH2CCH	CH3
E-269	CH	CH2CCCH3	CH3
E-270	CH	CH2CF3	CH3
E-271	CH	CH2CH2OCH3	CH3
E-272	CH	CH2CH2OC2H5	CH3
E-273	CH	CH2CH2CH2OCH3	CH3
E-274	CH	CH2CH2CH2OC2H5	CH3
E-275	CH	CH2CH(OCH3)2	CH3
E-276	CH	CH2CN	CH3
E-277	CH	CH2CO2H	CH3
E-278	CH	CH2CO2CH3	CH3
E-279	CH	CH2CO2C2H5	CH3
E-280	CH	CH(CH3)CO2CH3	CH3
E-281	CH	cyclo-C3H7	CH3
E-282	CH	cyclo-C5H9	CH3
E-283	CH	cyclo-C6H11	CH3
E-284	CH	CH2(cyclo-C3H5)	CH3
E-285	CH	CH2(cyclo-C5H9)	CH3
E-286	CH	CH2(cyclo-C6H11)	CH3
E-287	CH	CH2Ph	CH3
E-288	CH	CH2(2-Cl-Ph)	CH3
E-289	CH	CH2(3-Cl-Ph)	CH3
E-290	CH	CH2(4-Cl-Ph)	CH3
E-291	CH	CH2(2-CF3-Ph)	CH3
E-292	CH	CH2(3-CF3-Ph)	CH3
E-293	CH	CH2(4-CF3-Ph)	CH3
E-294	CH	CH2(2-F-Ph)	CH3
E-295	CH	CH2(3-F-Ph)	CH3
E-296	CH	CH2(4-F-Ph)	CH3
E-297	CH	CH2(2-OMe-Ph)	CH3
E-298	CH	CH2(3-OMe-Ph)	CH3
E-299	CH	CH2(4-OMe-Ph)	CH3
E-300	CH	CH(CH3)Ph	CH3
E-301	CH	CH(CH3)(2-Cl-Ph)	CH3

Compound	U	R^{2a}	R^{e}
E-302	CH	CH(CH3)(3-Cl-Ph)	CH3
E-303	CH	CH(CH3)(4-Cl-Ph)	CH3
E-304	CH	CH(CH3)(2-CF3-Ph)	CH3
E-305	CH	CH(CH3)(3-CF3-Ph)	CH3
E-306	CH	CH(CH3)(4-CF3-Ph)	CH3
E-307	CH	Ph	CH3
E-308	CH	2-Cl-Ph	CH3
E-309	CH	3-Cl-Ph	CH3
E-310	CH	4-Cl-Ph	CH3
E-311	CH	2-CF3-Ph	CH3
E-312	CH	3-CF3-Ph	CH3
E-313	CH	4-CF3-Ph	CH3
E-314	CH	2-CH3O-Ph	CH3
E-315	CH	3-CH3O-Ph	CH3
E-316	CH	4-CH3O-Ph	CH3
E-317	CH	4-CF3O-Ph	CH3
E-318	CH	4-CF3CH2O-Ph	CH3
E-319	CH	4-PhO-Ph	CH3
E-320	CH	4-(4-Cl-Ph)O-Ph	CH3
E-321	CH	4-(4-CF3-Ph)O-Ph	CH3
E-322	CH	OCH3	CH3
E-323	CH	OC2H5	CH3
E-324	CH	O-n-C3H7	CH3
E-325	CH	O-i-C3H7	CH3
E-326	CH	O-n-C4H9	CH3
E-327	CH	O-i-C4H7	CH3
E-328	CH	O-sec-C4H9	CH3
E-329	CH	O-t-C4H9	CH3
E-330	CH	O-n-C5H11	CH3
E-331	CH	OCH2CH=CH2	CH3
E-332	CH	OCH2C(CH3)=CH2	CH3
E-333	CH	OCH2CH=CHCH3	CH3
E-334	CH	OCH2CH=C(CH3)2	CH3
E-335	CH	OCH2CCH	CH3
E-336	CH	OCH2CCCH3	CH3
E-337	CH	OCH2Ph	CH3
E-338	CH	OCH(CH3)Ph	CH3
E-339	CH	OCH2(2-Cl-Ph)	CH3
E-340	CH	OCH2(3-Cl-Ph)	CH3
E-341	CH	OCH2(4-Cl-Ph)	CH3
E-342	CH	OCH2(2-OCH3-Ph)	CH3
E-343	CH	OCH2(3-OCH3-Ph)	CH3

Compound	U	R^{2a}	R^{e}
E-344	CH	OCH2(4-OCH3-Ph)	CH3
E-345	CH	OCH2(2-CF3-Ph)	CH3
E-346	CH	OCH2(3-CF3-Ph)	CH3
E-347	CH	OCH2(4-CF3-Ph)	CH3
E-348	CH	OCH2(2-NO2-Ph)	CH3
E-349	CH	OCH2(3-NO2-Ph)	CH3
E-350	CH	OCH2(4-NO2-Ph)	CH3
E-351	CH	CH3	Ph
E-352	CH	C2H5	Ph
E-353	CH	n-C3H7	Ph
E-354	CH	i-C3H7	Ph
E-355	CH	n-C4H9	Ph
E-356	CH	s-C4H9	Ph
E-357	CH	i-C4H9	Ph
E-358	CH	t-C4H9	Ph
E-359	CH	n-C5H11	Ph
E-360	CH	n-C6H13	Ph
E-361	CH	CH2CH=CH2	Ph
E-362	CH	CH2C(CH3)=CH2	Ph
E-363	CH	CH2C(CH3)=CHCH3	Ph
E-364	CH	CH2CH=C(CH3)2	Ph
E-365	CH	CH2CCl=CH2	Ph
E-366	CH	CH2CH=CCl2	Ph
E-367	CH	CH2CH=CHCF3	Ph
E-368	CH	CH2CH=CHPh	Ph
E-369	CH	CH(CH3)CH=CH2	Ph
E-370	CH	CH2CCH	Ph
E-371	CH	CH2CCCH3	Ph
E-372	CH	CH2CF3	Ph
E-373	CH	CH2CH2OCH3	Ph
E-374	CH	CH2CH2OC2H5	Ph
E-375	CH	CH2CH2CH2OCH3	Ph
E-376	CH	CH2CH2CH2OC2H5	Ph
E-377	CH	CH2CH(OCH3)2	Ph
E-378	CH	CH2CN	Ph
E-379	CH	CH2CO2H	Ph
E-380	CH	CH2CO2CH3	Ph
E-381	CH	CH2CO2C2H5	Ph
E-382	CH	CH(CH3)CO2CH3	Ph
E-383	CH	cyclo-C3H7	Ph
E-384	CH	cyclo-C5H9	Ph
E-385	CH	cyclo-C6H11	Ph

Compound	U	R^{2a}	R^{e}
E-386	CH	CH2(cyclo-C3H5)	Ph
E-387	CH	CH2(cyclo-C5H9)	Ph
E-388	CH	CH2(cyclo-C6H11)	Ph
E-389	CH	CH2Ph	Ph
E-390	CH	CH2(2-Cl-Ph)	Ph
E-391	CH	CH2(3-Cl-Ph)	Ph
E-392	CH	CH2(4-Cl-Ph)	Ph
E-393	CH	CH2(2-CF3-Ph)	Ph
E-394	CH	CH2(3-CF3-Ph)	Ph
E-395	CH	CH2(4-CF3-Ph)	Ph
E-396	CH	CH2(2-F-Ph)	Ph
E-397	CH	CH2(3-F-Ph)	Ph
E-398	CH	CH2(4-F-Ph)	Ph
E-399	CH	CH2(2-OMe-Ph)	Ph
E-400	CH	CH2(3-OMe-Ph)	Ph
E-401	CH	CH2(4-OMe-Ph)	Ph
E-402	CH	CH(CH3)Ph	Ph
E-403	CH	CH(CH3)(2-Cl-Ph)	Ph
E-404	CH	CH(CH3)(3-Cl-Ph)	Ph
E-405	CH	CH(CH3)(4-Cl-Ph)	Ph
E-406	CH	CH(CH3)(2-CF3-Ph)	Ph
E-407	CH	CH(CH3)(3-CF3-Ph)	Ph
E-408	CH	CH(CH3)(4-CF3-Ph)	Ph
E-409	CH	Ph	Ph
E-410	CH	2-Cl-Ph	Ph
E-411	CH	3-Cl-Ph	Ph
E-412	CH	4-Cl-Ph	Ph
E-413	CH	2-CF3-Ph	Ph
E-414	CH	3-CF3-Ph	Ph
E-415	CH	4-CF3-Ph	Ph
E-416	CH	2-CH3O-Ph	Ph
E-417	CH	3-CH3O-Ph	Ph
E-418	CH	4-CH3O-Ph	Ph
E-419	CH	4-CF3O-Ph	Ph
E-420	CH	4-CF3CH2O-Ph	Ph
E-421	CH	4-PhO-Ph	Ph
E-422	CH	4-(4-Cl-Ph)O-Ph	Ph
E-423	CH	4-(4-CF3-Ph)O-Ph	Ph
E-424	CH	OCH3	Ph
E-425	CH	OC2H5	Ph
E-426	CH	O-n-C3H7	Ph
E-427	CH	O-i-C3H7	Ph

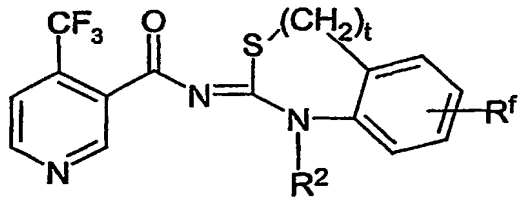
Compound	U	R^{2a}	R^{e}
E-428	CH	O-n-C4H9	Ph
E-429	CH	O-i-C4H7	Ph
E-430	CH	O-sec-C4H9	Ph
E-431	CH	O-t-C4H9	Ph
E-432	CH	O-n-C5H11	Ph
E-433	CH	OCH2CH=CH2	Ph
E-434	CH	OCH2C(CH3)=CH2	Ph
E-435	CH	OCH2CH=CHCH3	Ph
E-436	CH	OCH2CH=C(CH3)2	Ph
E-437	CH	OCH2CCH	Ph
E-438	CH	OCH2CCCH3	Ph
E-439	CH	OCH2Ph	Ph
E-440	CH	OCH(CH3)Ph	Ph
E-441	CH	OCH2(2-Cl-Ph)	Ph
E-442	CH	OCH2(3-Cl-Ph)	Ph
E-443	CH	OCH2(4-Cl-Ph)	Ph
E-444	CH	OCH2(2-OCH3-Ph)	Ph
E-445	CH	OCH2(3-OCH3-Ph)	Ph
E-446	CH	OCH2(4-OCH3-Ph)	Ph
E-447	CH	OCH2(2-CF3-Ph)	Ph
E-448	CH	OCH2(3-CF3-Ph)	Ph
E-449	CH	OCH2(4-CF3-Ph)	Ph
E-450	CH	OCH2(2-NO2-Ph)	Ph
E-451	CH	OCH2(3-NO2-Ph)	Ph
E-452	CH	OCH2(4-NO2-Ph)	Ph
E-453	N	CH3	Ph
E-454	N	C2H5	Ph
E-455	N	n-C3H7	Ph
E-456	N	i-C3H7	Ph
E-457	N	n-C4H9	Ph
E-458	N	s-C4H9	Ph
E-459	N	i-C4H9	Ph
E-460	N	t-C4H9	Ph
E-461	N	n-C5H11	Ph
E-462	N	n-C6H13	Ph
E-463	N	CH2CH=CH2	Ph
E-464	N	CH2C(CH3)=CH2	Ph
E-465	N	CH2C(CH3)=CHCH3	Ph
E-466	N	CH2CH=C(CH3)2	Ph
E-467	N	CH2CCl=CH2	Ph
E-468	N	CH2CH=CCl2	Ph
E-469	N	CH2CH=CHCF3	Ph

Compound	U	R^{2a}	R^{e}
E-470	N	CH2CH=CHPh	Ph
E-471	N	CH(CH3)CH=CH2	Ph
E-472	N	CH2CCH	Ph
E-473	N	CH2CCCH3	Ph
E-474	N	CH2CF3	Ph
E-475	N	CH2CH2OCH3	Ph
E-476	N	CH2CH2OC2H5	Ph
E-477	N	CH2CH2CH2OCH3	Ph
E-478	N	CH2CH2CH2OC2H5	Ph
E-479	N	CH2CH(OCH3)2	Ph
E-480	N	CH2CN	Ph
E-481	N	CH2CO2H	Ph
E-482	N	CH2CO2CH3	Ph
E-483	N	CH2CO2C2H5	Ph
E-484	N	CH(CH3)CO2CH3	Ph
E-485	N	cyclo-C3H7	Ph
E-486	N	cyclo-C5H9	Ph
E-487	N	cyclo-C6H11	Ph
E-488	N	CH2(cyclo-C3H5)	Ph
E-489	N	CH2(cyclo-C5H9)	Ph
E-490	N	CH2(cyclo-C6H11)	Ph
E-491	N	CH2Ph	Ph
E-492	N	CH2(2-Cl-Ph)	Ph
E-493	N	CH2(3-Cl-Ph)	Ph
E-494	N	CH2(4-Cl-Ph)	Ph
E-495	N	CH2(2-CF3-Ph)	Ph
E-496	N	CH2(3-CF3-Ph)	Ph
E-497	N	CH2(4-CF3-Ph)	Ph
E-498	N	CH2(2-F-Ph)	Ph
E-499	N	CH2(3-F-Ph)	Ph
E-500	N	CH2(4-F-Ph)	Ph
E-501	N	CH2(2-OMe-Ph)	Ph
E-502	N	CH2(3-OMe-Ph)	Ph
E-503	N	CH2(4-OMe-Ph)	Ph
E-504	N	CH(CH3)Ph	Ph
E-505	N	CH(CH3)(2-Cl-Ph)	Ph
E-506	N	CH(CH3)(3-Cl-Ph)	Ph
E-507	N	CH(CH3)(4-Cl-Ph)	Ph
E-508	N	CH(CH3)(2-CF3-Ph)	Ph
E-509	N	CH(CH3)(3-CF3-Ph)	Ph
E-510	N	CH(CH3)(4-CF3-Ph)	Ph
E-511	N	Ph	Ph

Compound	U	R^{2a}	R^{e}
E-512	N	2-Cl-Ph	Ph
E-513	N	3-Cl-Ph	Ph
E-514	N	4-Cl-Ph	Ph
E-515	N	2-CF3-Ph	Ph
E-516	N	3-CF3-Ph	Ph
E-517	N	4-CF3-Ph	Ph
E-518	N	2-CH3O-Ph	Ph
E-519	N	3-CH3O-Ph	Ph
E-520	N	4-CH3O-Ph	Ph
E-521	N	4-CF3O-Ph	Ph
E-522	N	4-CF3CH2O-Ph	Ph
E-523	N	4-PhO-Ph	Ph
E-524	N	4-(4-Cl-Ph)O-Ph	Ph
E-525	N	4-(4-CF3-Ph)O-Ph	Ph
E-526	CH	CH3	CF3
E-527	CH	i-C3H7	CF3
E-528	CH	CH2CHCH2	CF3
E-529	CH	CH2Ph	CF3
E-530	CH	Ph	CF3
E-531	CH	3-CF3-Ph	CF3
E-532	N	CH3	CF3
E-533	N	i-C3H7	CF3
E-534	N	CH2CHCH2	CF3
E-535	N	CH2Ph	CF3
E-536	N	Ph	CF3
E-537	N	3-CF3-Ph	CF3

Table 6

Compounds of formula (If) wherein t is 0 or 1. Compounds F-1 to F-78 represent individual compounds in which t is 0, whilst compounds G-1 to G-78 represent individual compounds in which t is 1.



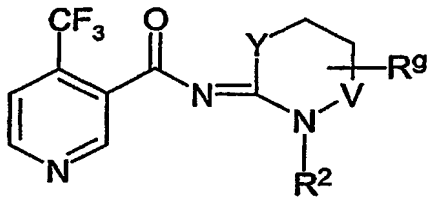
(1f)

Compound		R^2	R^1
F-1	G-1	H	H
F-2	G-2	CH3	H
F-3	G-3	C2H5	H
F-4	G-4	n-C3H7	H
F-5	G-5	i-C3H7	H
F-6	G-6	n-C4H9	H
F-7	G-7	s-C4H9	H
F-8	G-8	i-C4H9	H
F-9	G-9	t-C4H9	H
F-10	G-10	n-C5H11	H
F-11	G-11	n-C6H13	H
F-12	G-12	CH2CH=CH2	H
F-13	G-13	CH2C(CH3)=CH2	H
F-14	G-14	CH2C(CH3)=CHCH3	H
F-15	G-15	CH2CH=C(CH3)2	H
F-16	G-16	CH2CCl=CH2	H
F-17	G-17	CH2CH=CCl2	H
F-18	G-18	CH2CH=CHCF3	H
F-19	G-19	CH2CH=CHPh	H
F-20	G-20	CH(CH3)CH=CH2	H
F-21	G-21	CH2CCH	H
F-22	G-22	CH2CCCH3	H
F-23	G-23	CH2CF3	H
F-24	G-24	CH2CH2OCH3	H
F-25	G-25	CH2CH2OC2H5	H
F-26	G-26	CH2CH2CH2OCH3	H
F-27	G-27	CH2CH2CH2OC2H5	H
F-28	G-28	CH2CH(OCH3)2	H
F-29	G-29	CH2CN	H
F-30	G-30	CH2CO2CH3	H
F-31	G-31	CH2CO2C2H5	H
F-32	G-32	CH(CH3)CO2CH3	H
F-33	G-33	cyclo-C3H7	H
F-34	G-34	cyclo-C5H9	H
F-35	G-35	cyclo-C6H11	H
F-36	G-36	CH2(cyclo-C3H5)	H
F-37	G-37	CH2(cyclo-C5H9)	H
F-38	G-38	CH2(cyclo-C6H11)	H
F-39	G-39	CH2Ph	H
F-40	G-40	CH2(2-Cl-Ph)	H
F-41	G-41	CH2(3-Cl-Ph)	H
F-42	G-42	CH2(4-Cl-Ph)	H

Compound		R^2	R^1
F-43	G-43	CH2(2-CF3-Ph)	H
F-44	G-44	CH2(3-CF3-Ph)	H
F-45	G-45	CH2(4-CF3-Ph)	H
F-46	G-46	CH2(2-F-Ph)	H
F-47	G-47	CH2(3-F-Ph)	H
F-48	G-48	CH2(4-F-Ph)	H
F-49	G-49	CH2(2-OMe-Ph)	H
F-50	G-50	CH2(3-OMe-Ph)	H
F-51	G-51	CH2(4-OMe-Ph)	H
F-52	G-52	CH(CH3)Ph	H
F-53	G-53	CH(CH3)(2-Cl-Ph)	H
F-54	G-54	CH(CH3)(3-Cl-Ph)	H
F-55	G-55	CH(CH3)(4-Cl-Ph)	H
F-56	G-56	CH(CH3)(2-CF3-Ph)	H
F-57	G-57	CH(CH3)(3-CF3-Ph)	H
F-58	G-58	CH(CH3)(4-CF3-Ph)	H
F-59	G-59	H	4-Cl
F-60	G-60	CH3	4-Cl
F-61	G-61	CH2CH=CH2	4-Cl
F-62	G-62	CH2C(CH3)=CH2	4-Cl
F-63	G-63	CH2Ph	4-Cl
F-64	G-64	H	5-Cl
F-65	G-65	CH3	5-Cl
F-66	G-66	CH2CH=CH2	5-Cl
F-67	G-67	CH2C(CH3)=CH2	5-Cl
F-68	G-68	CH2Ph	5-Cl
F-69	G-69	H	6-Cl
F-70	G-70	CH3	6-Cl
F-71	G-71	CH2CH=CH2	6-Cl
F-72	G-72	CH2C(CH3)=CH2	6-Cl
F-73	G-73	CH2Ph	6-Cl
F-74	G-74	H	7-Cl
F-75	G-75	CH3	7-Cl
F-76	G-76	CH2CH=CH2	7-Cl
F-77	G-77	CH2C(CH3)=CH2	7-Cl
F-78	G-78	CH2Ph	7-Cl

Table 7

Compounds of formula (Ig). Compounds H-1 to H-102 represent individual compounds in which Y is S and V is CH_2; compounds I-1 to I-102 represent individual compounds in which Y is S and V is O; compounds J-1 to J-102 represent individual compounds in which Y is O and V is CH_2.



(1g)

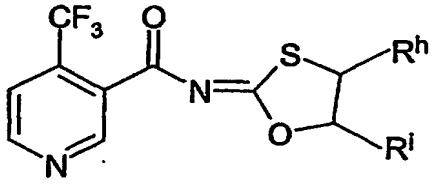
Compound			R^2	R^g
H-1	I-1	J-1	H	H
H-2	I-2	J-2	CH3	H
H-3	I-3	J-3	C2H5	H
H-4	I-4	J-4	n-C3H7	H
H-5	I-5	J-5	i-C3H7	H
H-6	I-6	J-6	n-C4H9	H
H-7	I-7	J-7	s-C4H9	H
H-8	I-8	J-8	i-C4H9	H
H-9	I-9	J-9	t-C4H9	H
H-10	I-10	J-10	n-C5H11	H
H-11	I-11	J-11	n-C6H13	H
H-12	I-12	J-12	CH2CH=CH2	H
H-13	I-13	J-13	CH2C(CH3)=CH2	H
H-14	I-14	J-14	CH2C(CH3)=CHCH3	H
H-15	I-15	J-15	CH2CH=C(CH3)2	H
H-16	I-16	J-16	CH2CCl=CH2	H
H-17	I-17	J-17	CH2CH=CCl2	H
H-18	I-18	J-18	CH2CH=CHCF3	H
H-19	I-19	J-19	CH2CH=CHPh	H
H-20	I-20	J-20	CH(CH3)CH=CH2	H
H-21	I-21	J-21	CH2CCH	H
H-22	I-22	J-22	CH2CCCH3	H
H-23	I-23	J-23	CH2CF3	H
H-24	I-24	J-24	CH2CH2OCH3	H
H-25	I-25	J-25	CH2CH2OC2H5	H
H-26	I-26	J-26	CH2CH2CH2OCH3	H
H-27	I-27	J-27	CH2CH2CH2OC2H5	H
H-28	I-28	J-28	CH2CH(OCH3)2	H
H-29	I-29	J-29	CH2CN	H

Compound			R^2	R^g
H-30	I-30	J-30	CH2CO2CH3	H
H-31	I-31	J-31	CH2CO2C2H5	H
H-32	I-32	J-32	CH(CH3)CO2CH3	H
H-33	I-33	J-33	cyclo-C3H7	H
H-34	I-34	J-34	cyclo-C5H9	H
H-35	I-35	J-35	cyclo-C6H11	H
H-36	I-36	J-36	CH2(cyclo-C3H5)	H
H-37	I-37	J-37	CH2(cyclo-C5H9)	H
H-38	I-38	J-38	CH2(cyclo-C6H11)	H
H-39	I-39	J-39	CH2Ph	H
H-40	I-40	J-40	CH2(2-Cl-Ph)	H
H-41	I-41	J-41	CH2(3-Cl-Ph)	H
H-42	I-42	J-42	CH2(4-Cl-Ph)	H
H-43	I-43	J-43	CH2(2-CF3-Ph)	H
H-44	I-44	J-44	CH2(3-CF3-Ph)	H
H-45	I-45	J-45	CH2(4-CF3-Ph)	H
H-46	I-46	J-46	CH2(2-F-Ph)	H
H-47	I-47	J-47	CH2(3-F-Ph)	H
H-48	I-48	J-48	CH2(4-F-Ph)	H
H-49	I-49	J-49	CH2(2-OMe-Ph)	H
H-50	I-50	J-50	CH2(3-OMe-Ph)	H
H-51	I-51	J-51	CH2(4-OMe-Ph)	H
H-52	I-52	J-52	CH(CH3)Ph	H
H-53	I-53	J-53	CH(CH3)(2-Cl-Ph)	H
H-54	I-54	J-54	CH(CH3)(3-Cl-Ph)	H
H-55	I-55	J-55	CH(CH3)(4-Cl-Ph)	H
H-56	I-56	J-56	CH(CH3)(2-CF3-Ph)	H
H-57	I-57	J-57	CH(CH3)(3-CF3-Ph)	H
H-58	I-58	J-58	CH(CH3)(4-CF3-Ph)	H
H-59	I-59	J-59	Ph	H
H-60	I-60	J-60	2-Cl-Ph	H
H-61	I-61	J-61	3-Cl-Ph	H
H-62	I-62	J-62	4-Cl-Ph	H
H-63	I-63	J-63	2-CF3-Ph	H
H-64	I-64	J-64	3-CF3-Ph	H
H-65	I-65	J-65	4-CF3-Ph	H
H-66	I-66	J-66	2-CH3O-Ph	H
H-67	I-67	J-67	3-CH3O-Ph	H
H-68	I-68	J-68	4-CH3O-Ph	H
H-69	I-69	J-69	4-CF3O-Ph	H
H-70	I-70	J-70	4-CF3CH2O-Ph	H
H-71	I-71	J-71	4-PhO-Ph	H

Compound			R^2	R^g
H-72	I-72	J-72	4-(4-Cl-Ph)O-Ph	H
H-73	I-73	J-73	4-(4-CF3-Ph)O-Ph	H
H-74	I-74	J-74	OCH3	H
H-75	I-75	J-75	OC2H5	H
H-76	I-76	J-76	O-n-C3H7	H
H-77	I-77	J-77	O-i-C3H7	H
H-78	I-78	J-78	O-n-C4H9	H
H-79	I-79	J-79	O-i-C4H7	H
H-80	I-80	J-80	O-sec-C4H9	H
H-81	I-81	J-81	O-t-C4H9	H
H-82	I-82	J-82	O-n-C5H11	H
H-83	I-83	J-83	OCH2CH=CH2	H
H-84	I-84	J-84	OCH2C(CH3)=CH2	H
H-85	I-85	J-85	OCH2CH=CHCH3	H
H-86	I-86	J-86	OCH2CH=C(CH3)2	H
H-87	I-87	J-87	OCH2CCH	H
H-88	I-88	J-88	OCH2CCCH3	H
H-89	I-89	J-89	OCH2Ph	H
H-90	I-90	J-90	OCH(CH3)Ph	H
H-91	I-91	J-91	OCH2(2-Cl-Ph)	H
H-92	I-92	J-92	OCH2(3-Cl-Ph)	H
H-93	I-93	J-93	OCH2(4-Cl-Ph)	H
H-94	I-94	J-94	OCH2(2-OCH3-Ph)	H
H-95	I-95	J-95	OCH2(3-OCH3-Ph)	H
H-96	I-96	J-96	OCH2(4-OCH3-Ph)	H
H-97	I-97	J-97	OCH2(2-CF3-Ph)	H
H-98	I-98	J-98	OCH2(3-CF3-Ph)	H
H-99	I-99	J-99	OCH2(4-CF3-Ph)	H
H-100	I-100	J-100	OCH2(2-NO2-Ph)	H
H-101	I-101	J-101	OCH2(3-NO2-Ph)	H
H-102	I-102	J-102	OCH2(4-NO2-Ph)	H

Table 8

Compounds of formula (Ih):

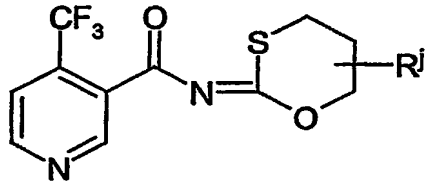


(Ih)

Compound	R^h	R^i
K-1	H	H
K-2	CH3	H
K-3	H	CH3
K-4	CH3	CH3

Table 9

Compounds of formula (Ii);



(Ii)

Compound	R^j
L-1	H

Table 10

1H-NMR spectral details for representative Examples from the above Tables.

Spectra were measured in deuterochloroform unless otherwise stated.

Cpd	1H-NMR
A-1	11.24(1H, s) 9.20(1H, s) 8.80(1H, d) 7.57(1H, d) 3.08(3H, d) 2.53(3H, s)
A-11	11.04(1H, s) 9.18(1H, s) 8.79(1H, d) 7.57(1H, d) 5.93(1H, m) 5.26(1H, d) 5.20(1H, d) 3.86(2H, d) 3.08(3H, d)
A-20	11.02(1H, s) 9.26(1H, s) 8.81(1H, d) 7.58(1H, d) 3.97(2H, s) 3.09(3H, d)
A-32	11.03(1H, s) 9.13(1H, s) 8.79(1H, d) 7.57(1H, d) 7.25-7.40(5H) 4.44(2H, s) 3.05(3H, d)
A-53	9.14(1H, s) 8.78(1H, d) 7.58(1H, d) 3.29(6H, s) 2.55(2H, s)
A-54	9.12(1H, s) 8.75(1H, d) 7.56(1H, d) 3.15(6H, s) 3.11(2H, q) 1.34(3H, t)

Cpd	1H-NMR
A-56	9.13(1H, s) 8.76(1H, d) 7.57(1H, d) 3.84(1H, m) 3.26(6H, s) 1.39(3H, d)
A-59	9.14(1H, s) 8.76(1H, d) 7.57(1H, d) 3.29(6H, s) 3.00(2H, d) 1.78(1H, m) 1.01(6H, d)
A-67	9.15(1H, s) 8.76(1H, d) 7.57(1H, d) 5.88(1H, m) 5.28(1H, d) 5.18(1H, d) 3.75(2H, d) 3.28(6H, s)
A-72	9.23(1H, s) 8.77(1H, d) 7.57(1H, d) 3.86(1H, d) 3.28(6H, s) 2.28(1H, t)
A-84	9.14(1H, s) 8.77(1H, d) 7.57(1H, d) 3.87(2H, s) 3.66(2H, s) 3.29(6H, s)
A-89	9.13(1H, s) 8.74(1H, d) 7.57(1H, d)7.20-7.35(5H) 4.35(2H, s) 3.28(6H, s)
A-94	9.13(1H, s) 8.88(1H, d) 7.35-7.70(5H) 4.37(2H, s) 3.29(6H, s)
A-95	9.14(1H, s) 8.85(1H, d) 7.56(1H, d) 7.50(2H, d) 7.28(2H, d) 4.37(2H, s) 3.29(6H, s)
A-102	9.09(1H, s) 8.76(1H, d) 7.58(1H, d) 7.40-7.25(5H) 4.93(1H, q) 3.24(6H, s) 1.75(3H, d)
A-221	10.99(1H, s) 9.17(1H, s) 8.78(1H, d) 7.56(1H, d) 3.96(1H, m) 3.14(2H, t) 1.75(2H, m) 1.33(6H, d) 1.00(3H, t)
A-229	10.99(1H) 9.17(1H, s) 8.79(1H, d) 7.57(1H, d) 5.94(1H, m) 5.25(1H, d) 5.20(1H, d) 3.94(1H, m) 3.84(2H, d) 1.34(6H, d)
A-230	10.99(1H) 9.15(1h, s) 8.78(1H, d) 7.56(1H, d) 4.98(1H, s) 4.90(1H, s) 3.98(1H, m) 3.89(2H, s) 1.82(3H, s) 1.34(6H, d)
A-231	10.96(1H) 9.16(1H, s) 8.77(1H, d) 7.55(1H, d) 5.67(1H, m) 5.51(1H, m) 3.92(1H, m) 3.78(2H, d) 1.67(3H, d) 1.32(6H, d)
A-237	10.97(1H) 9.17(1H, s) 8.78(1H, d) 7.57(1H, d) 6.00(1H, m) 5.22(1H, d) 5.13(1H, d) 4.68(1H, m) 3.94(1H, m) 1.50(3H, d) 1.33(6H, d)
A-250	9.13(1H, s) 8.78(1H, d) 7.57(1H, d) 7.20-7.35(5H) 4.43(2H, s) 3.91(1H, m) 1.35(6H, d)
A-255	11.00(1H) 9.10(1H, s) 8.80(1H, d) 7.30-7.60(5H) 4.46(2H, s) 3.90(1H, m) 1.35(6H, d)

Cpd	1H-NMR
A-437	11.18(1H, s) 9.16(1H, s) 8.79(1H, d) 7.57(1H, d) 6.0-5.8(1H, m) 5.3-5.0(2H, m) 3.84(2H, m) 3.22(2H, t) 2.1-1.9(1H, m) 1.02(6H, d)
A-438	11.19(1H, s) 9.15(1H, s) 8.78(1H, d) 7.57(1H, d) 4.98(1H, s) 4.90(1H, s) 3.90(1H, s) 3.24(2H, t) 2.1-1.9(1H, m) 1.82(3H, s) 1.03(6H, d)
A-439	11.17(1H, s) 9.17(1H, s) 8.78(1H, d) 7.57(1H, d) 5.8-5.4(2H, m) 3.80(2H, d) 3.20(2H, t) 2.1-1.8(1H, m) 1.8-1.6(3H, m) 1.02(6H, d)
A-458	1.17(1H, s) 9.12(1H, s) 8.78(1H, d) 7.57(1H, d) 7.4-7.1(5H, m) 4.43(2H, s) 3.20(2H, t) 2.1-1.9(1H, m) 1.01(6H, d)
A-460	11.17(1H, s) 9.08(1H, s) 8.79(1H, d) 7.57(1H, d) 7.4-7.1(4H, m) 4.38(2H, s) 3.21(2H, t) 2.1-1.9(1H, m) 1.01(6H, d)
A-481	11.50(1H) 9.15(1H, s) 8.89(1H, d) 7.57(1H, d) 2.52(3H, s) 1.53(9H, s)
A-482	11.53(1H) 9.12((1H, s) 8.76(1H, d) 7.55(1H, d) 3.15(2H, t) 1.71(2H, m) 1.52(9H, s) 0.99(3H, t)
A-490	11.56(1H) 9.14(1H, s) 8.80(1H, d) 7.58(1H, d) 5.95(1H, m) 5.28(1H, d) 5.18(1H, d) 3.88(2H, d) 1.56(9H, s)
A-491	11.53(1H) 9.10(1H, s) 8.76(1H, d) 7.55(1H, d) 4.97(1H, s) 4.90(1H, s) 3.89(2H, s) 1.82(3H, s) 1.52(9H, s)
A-504	11.51(1H) 9.13(1H, s) 8.77(1H, d) 7.56(1H, d) 5.66(1H, m) 5.54(1H, m) 3.80(2H) 1.64(3H, s) 1.52(9H, s)
A-576	11.51(1H) 9.03(1H, s) 8.78(1H, d) 7.56(1H, d) 3.91(2H, s) 3.65(3H, s) 1.56(9H, s)
A-714	9.15(1H, s) 8.77(1H, d) 7.57(1H, d) 5.85(1H, m) 5.28(1H, d) 5.19(1H, d) 3.73(2H, d) 3.66(2H, q) 3.54(2H, t) 1.72(2H, d) 1.30(3H, t) 0.96(3H, t)
A-715	11.35(1H) 9.21(1H, s) 8.78(1H, d) 7.57(1H, d) 7.25-7.45(5H) 4.60(2H, d) 2.53(3H, s)
A-717	11.37(1H, s) 9.20(1H, s) 8.79(1H, d) 7.57(1H, d) 7.23-7.43(5H) 4.29(2H, d) 3.19(2H, q) 1.35(3H, t)
A-724	11.38(1H) 9.20(1H, s) 8.78(1H, d) 7.57(1H, d) 7.25-7.42(5H) 4.56(2H, s)

Cpd	1H-NMR
	4.12(1H, m) 1.40(6H, d)
A-733	11.36(1H, s) 9.15(1H, s)8.78(1H, d) 7.58(1H, d) 7.25-7.45(5H) 5.93(1H, m) 5.24(1H, d)5.14(1H, d)4.57(2H, d) 3.87(2H, d)
A-740	11.32(1H) 9.27(1H, s) 8.81(1H, d) 7.58(1h, d) 7.24-7.45(5H) 5.99(2H, d) 3.98(2H, s) 2.28(1H, s)
A-766	11.34(1H) 9.12(1H, s) 8.78(1H, d) 7.56(1H, d) 7.25-7.40(5H) 4.60-4.67(3H) 3.43-3.66(4H) 3.41(2H, d) 1.16(6H, t)
A-767	9.11(1H, s) 8.78(1H, d) 7.59(1H, d) 7.44-7.50(3H) 7.29(2H, d) 3.53(3H, s) 2.44(3H, s)
A-776	9.10(1H, s) 8.78(1H, d) 7.59(1H, d) 7.45-7.50(3H) 7.33(2H, d) 3.51(3H, s) 3.01(2H, q) 1.24(3H, t)
A-1063	9.17(1H, s) 8.76(1H, d) 7.57(1H, d) 7.25-7.40(5H) 5.89(1H, m) 5.25(1H, d) 5.18(1H, d) 4.87(2H, s) 3.78(2H, d) 3.16(3H, s)
A-1108	9.11(1H, s) 8.75(1H, d) 7.55(1H, d) 3.65(4H, dt) 2.56(3H, s) 2.05(4H, m)
A-1145	9.14(1H, s) 8.76(1H, d) 7.57(1H, d) 5.86(1H, m) 5.24(1H, d) 5.17(1H, d) 3.70-3.77(3H) 1.67-1.83(6H)
A-1275	9.15(1H, s) 8.79(1H, d) 7.58(1H, d) 5.84(1H, m) 5.26(1H, d) 5.19(1H, d) 3.81(8H) 3.72(2H, d)
A-1279	9.26(1H, s) 8.83(1H, d)7.62(1H, d)7.38(2H, d) 7.27(2H, d) 5.85(1H, m) 5.23(1h, d) 5.14(1H, d) 3.81(2H, d)
A-1324	9.23(1H, s) 8.83(1H, d) 7.61(1H, d) 7.15-7.40(9H) 4.40(2H, s)
A-1325	9.11(1H, s) 8.77(1H, d) 7.59(1H, d) 7.43-7.50(3H) 7.33(2H) 3.77(1H, m) 3.49(3H, s) 1.30(6H, d)
A-1329	9.15(1H, s) 8.78(1H, d) 7.60(1H, d) 7.35-7.50(3H) 7.30(2H) 5.78(1H, m) 5.18(1H, d) 5.11(1H, d) 3.65(2H, d) 3.51(3H, s)
A-1332	9.17(1H, s) 8.80(1H, d) 7.60(1H, d) 7.25-7.53(5H) 3.76(2H, s) 3.65(3H, s) 3.48(3H, s)
A-1432	9.11(1H, s) 8.78(1H, d) 7.59(1H, d) 7.20-7.48(10H) 4.25(2H, s) 3.52(3H, s)

Cpd	1H-NMR
A-1437	8.95(1H, s) 8.74(1H, d) 7.54(1H, d) 7.25-7.43(5H) 5.86(1H, m) 5.21(1H, d) 5.14(1H, d) 3.69(2H, d) 2.09(3H, s) 1.95(3H, s)
A-1438	9.29(1H, s) 8.85(1H, d) 7.50-7.68(5H) 5.90(1H, m) 5.24(1H, d) 5.09(1H, d) 3.84(2H, d)
B-8	12.64(1H) 9.24(1H, s) 8.85(1H, d) 7.15-7.70(9H) 4.43(2H, s)
C-607	9.17(1H, s) 8.84(1H, d) 7.60(1H, d) 5.89(1H, m) 5.28(1H, d) 5.19(1H, d) 4.54(2H, q) 3.63(2H, d) 1.41(3H, t)
D-1	11.37(1H) 9.18(1H, s) 8.79(1H, d) 7.57(1H, d) 7.28-7.40(5H) 5.91(1H, m) 5.25(1H, d) 5.14(1H, d) 4.60(2H, d) 3.87(2H, d)
D-2	9.75(1H) 9.17(1H, s) 8.82(1H, d) 7.59(1H, d) 3.45(2H, t) 3.27(2H, t)
D-3	9.20(1H, s) 8.80(1H, d) 7.57(1H, d) 3.75(2H, t) 3.25(2H, t) 3.23(3H, s)
D-5	9.19(1H, s) 8.79(1H, d) 7.57(1H, d) 3.71-3.80(4H) 3.23(2H, t) 1.23(3H, t)
D-8	9.18(1H, s) 8.79(1H, d) 7.57(1H, d) 4.97(1H, m) 3.79(2H, t) 3.19(2H, t) 1.28(6H, d)
D-9	9.16(1H, s) 8.79(1H, d) 7.58(1H, d) 3.85(2H, t) 3.09(2H, t) 1.58(9H, s)
D-40	9.16(1H, s) 8.80(1H, d) 7.58(1H, d) 3.85(2H, t) 3.09(1H, t) 1.58(8H, s)
D-60	9.21(1H, s) 8.79(1H, d) 7.58(1H, d) 7.23-7.40(5H) 4.90(2H, s) 3.63(2H, t) 3.19(2H, t)
D-63	9.09(1H, s) 8.75(1H, d) 7.53(1H, d) 7.41-7.44(4H) 7.30(1H) 4.18(1H, t) 3.36(1H, t)
D-104	9.07(1H, s) 8.77(1H, d) 7.55(1H, d) 7.30-7.45(4H) 4.15(2H, t) 3.37(2H, t)
D-107	9.31(1H, s) 8.91(1H, d) 7.66(1H, d) 3.90(2H, s) 3.38(3H, s)
D-110	9.29(1H, s) 8.90(1H, d) 7.66(1H, d) 5.02(1H, m) 3.77(2H, s) 1.51(6H, d)
D-143	9023(1H, s) 8.90(1H, d) 7.66(1H, d) 3.75(2H, s) 1.78(9H, s)
D-166	9.25(1H, s) 8.91(1H, d) 7.66(1H, d) 7.25-7.42(5H) 5.09(2H, s) 3.88(2H, s)
D-207	9.04(1H, s) 8.84(1H, d) 7.59(1H, d) 7.50(2H, d) 7.24(2H, d) 4.05(2H, s)
D-210	9.31(1H, s) 8.90(1H, d) 4.06(1H, q) 3.38(3H, s) 1.71(3H, d)

Cpd	1H-NMR
D-213	9.29(1H, s) 8.90(1H, d) 7.66(1H, s) 5.02(1H, m) 4.10(1H, q) 1.68(3H, d) 1.53(6H, d)
D-269	9.23(1H, s) 8.89(1H, d) 7.65(1H, d) 7.25-7.38(5H) 5.08(2H) 4.05(1H, q) 1.70(3H, d)
D-310	9.04(1H, s) 8.83(1H, d) 7.58(1H, d) 7.47(2H, d) 7.24(2H, d) 4.21(1H, q) 1.80(3H, d)
D-313	9.32(1H, s) 8.90(1H, d) 7.66(1H, d) 3.39(3H, s) 1.69(6H, s)
D-316	9.28(1H, s) 8.88(1H, d) 7.65(1H, d) 5.00(1H, m) 1.63(6H, s) 1.50(6H, d)
D-372	9.20(1H, s) 9.87(1H, d) 7.64(1H, d) 7.20-7.40(5H) 5.10(2H, s) 1.68(6H, s)
D-722	9.06(1H, s) 8.83(1H, d) 7.59(1H, d) 7.48(2H, d) 7.26(2H, d) 1.80(6H, s)
D-825	9.23(1H, s) 8080(1H, d) 7.58(1H, d) 5.29(1H, d) 3.84(1H, dd) 3.76(2H) 3.46(1H) 3.29(3H, s) 1.23(3H, t)
E-1	9.45(1H) 9.16(1H, s) 8.82(1H, d) 7.55(1H, d) 4.61(2H, t) 3.95(2H, t)
E-11	9.30(1H, s) 8.84(1H, d) 8.43(1H, s) 7.64(1H, d) 4.09(3H, s)
E-29	9.30(1H, s) 8.86(1H, d) 8.47(1H, s) 7.64(1H, d) 6.02(1H, m) 5.32-3.36(2H) 5.08(1H, d)
E-30	9.26(1H, s) 8.95(1H, s) 8.93(1H, d) 7.78(1H, d) 5.33(2H, s) (in acetone-d6)
E-31	9.32(1H, s) 8.92(1H, d) 8.51(1H, s) 7.75(1H, d) 5.24(2H, s) 3.82(3H, s)
E-39	9.26(1H, s) 8.86(1H, d) 8.49(1H, s) 7.63(1H, d) 5.21(2H, s) 4.27(2H, q) 1.29(3H, t)
E-74	9.48(1H, s) 9.10(1H, d) 8.58(1H, s) 8.24(1H, d) 7.27-7.43(5H) 5.66(2H, s)
E-102	9.52(1H, s) 8.95(1H, d) 8.18(1H, d) 7.17(1H, d) 6.93(1H, d) 3.89(3H, s)
E-103	9.21(1H, s) 8.87(1H, d) 7.73(1H, d) 7.58(1H, d) 7.09(1H, d) 5.17(2H, s) (in acetone-d6)
E-104	9.25(1H, s) 8.83(1H, d) 7.63(1H, d) 7.10(1H, d) 6.83(1H, d) 5.01(2H, s) 3.81(3H, s)
E-112	9.24(1H, s) 8.82(1H, d) 7.61(1H, d) 7.09(1H, d) 6.82(1H, d) 4.98(2H, s)

Cpd	1H-NMR
	4.26(2H, q) 1.29(3H, t)
E-537	9.45(1H, s) 9.03(1H, d) 8.23(1H, d) 7.37-7.45(3H) 7.27(2H, d) 7.14(1H, d) 6.92(1H, d) 5.48(2H, s)
F-12	9.27(1H, s) 8.91(1H, d) 8.27(1H, s) 8.18(1H, d) 7.64-7.77(3H)
F-39	9.34(1H, s) 8.86(1H, d) 7.75(1H, d) 7.64(1H, d) 7.26-7.53(3H) 6.00(1H, m) 5.12-5.32(2H) 5.13(1H, d)
H-1	9.30(1H, s) 8.83(1H, d) 7.74(1H, d) 7.62(1H, d) 7.24-7.43(8H) 5.73(2H, s)
G-1	11.85(1H) 9.08(1H, s) 8.76(1H, d) 7.54(1H, d) 3.58(2H, m) 3.14(2H, m) 2.24(2H, m)
K-1	9.18(1H, s) 8.81(1H, d) 7.58(1H, d) 7.18-7.28(3H) 7.01(1H, d) 4.05(2H, s)
J-1	2.90(1H, d) 8.77(1H, s) 7.63(1H, d) 4.36(2H, t) 3.65(2H, t)

According to a further feature of the present invention there is provided a method for the control of pests at a locus which comprises the application of an effective amount of a compound of formula (I) or a salt thereof. For this purpose, the said compound is normally used in the form of a pesticidal composition (i.e. in association with compatible diluents or carriers and/or surface active agents suitable for use in pesticidal compositions), for example as hereinafter described.

The term "compound of the invention" as used hereinafter embraces a 3-pyridylcarboxamide of formula (I) as defined above and a pesticidally acceptable salt thereof.

One aspect of the present invention as defined above is a method for the control of pests at a locus. The locus includes, for example, the pest itself, the place (plant, field, forest, orchard, waterway, soil, plant product, or the like) where the pest resides or feeds, or a place susceptible to future infestation by the pest. The compound of the invention may therefore be applied directly to the pest, to the place where the pest resides or feeds, or to the place susceptible to future infestation by the pest.

As is evident from the foregoing pesticidal uses, the present invention provides pesticidally active compounds and methods of use of said compounds for the control of a number of pest species which includes: arthropods, especially insects or mites, or plant nematodes. The compound of the invention may thus be advantageously employed in practical uses, for example, in agricultural or horticultural crops, in forestry, in veterinary medicine or livestock husbandry, or in public health.

The compounds of the invention may be used for example in the following applications and on the following pests:

For the control of soil insects, such as corn rootworm, termites (especially for protection of structures), root maggots, wireworms, root weevils, stalkborers, cutworms, root aphids, or grubs. They may also be used to provide activity against plant pathogenic nematodes, such as root-knot, cyst, dagger, lesion, or stem or bulb nematodes, or against mites. For the control of soil pests, for example corn rootworm, the compounds are advantageously applied to or incorporated at an effective rate into the soil in which crops are planted or to be planted or to the seeds or growing plant roots.

In the area of public health, the compounds are especially useful in the control of many insects, especially filth flies or other Dipteran pests, such as houseflies, stableflies, soldierflies, hornflies, deerflies, horseflies, midges, punkies, blackflies, or mosquitoes.

In the protection of stored products, for example cereals, including grain or flour, groundnuts, animal feedstuffs, timber or household goods, e.g. carpets and textiles, compounds of the invention are useful against attack by arthropods, more especially beetles, including weevils, moths or mites, for example Ephestia spp. (flour moths), Anthrenus spp. (carpet beetles), Tribolium spp. (flour beetles), Sitophilus spp. (grain weevils) or Acarus spp. (mites).

In the control of cockroaches, ants or termites or similar arthropod pests in infested domestic or industrial premises or in the control of mosquito larvae in waterways, wells, reservoirs or other running or standing water.

For the treatment of foundations, structures or soil in the prevention of the attack on building by termites, for example, Reticulitermes spp., Heterotermes spp., Coptotermes spp..

In agriculture against adults, larvae and eggs of Lepidoptera (butterflies and moths), e.g. Heliothis spp. such as Heliothis virescens (tobacco budworm), Heliothis armigera and Heliothis zea. Against adults and larvae of Coleoptera (beetles) e.g. Anthonomus spp. e.g. grandis (cotton boll weevil), Leptinotarsa decemlineata (Colorado potato beetle), Diabrotica spp. (corn rootworms). Against Heteroptera (Hemiptera and Homoptera) e.g. Psylla spp., Bemisia spp., Trialeurodes spp., Aphis spp., Myzus spp., Megoura viciae, Phylloxera spp., Nephotettix spp. (rice leaf hoppers), Nilaparvata spp..

Against Diptera e.g. Musca spp.. Against Thysanoptera such as Thrips tabaci. Against Orthoptera such as Locusta and Schistocerca spp., (locusts and crickets) e.g. Gryllus spp., and Acheta spp. for example, Blatta orientalis, Periplaneta americana, Blatella germanica, Locusta migratoria migratorioides, and Schistocerca gregaria. Against Collembola e.g. Periplaneta spp. and Blatella spp. (roaches).

Against arthropods of agricultural significance such as Acari (mites) e.g, Acarus siro, Argas spp., Ornithodoros spp., Dermanyssus gallinae, Eriophyes ribis, Phyllocoptruta oleivora, Boophilus spp., Rhipicephalus spp., Amblyomma spp., Hyalomma spp., Ixodes spp., Psoroptes spp., Chorioptes spp., Sarcoptes spp., Tarsonemus spp., Bryobia praetiosa, Panonychus spp., Tetranychus spp., Eotetranychus spp., Oligonychus spp., Eutetranychus spp.

From the order of the Isopoda, for example, Oniscus aselus, Armadium vulgare, Porcellio scaber.

Against nematodes which attack plants or trees of importance to agriculture, forestry or horticulture either directly or by spreading bacterial, viral, mycoplasma or fungal diseases of the plants. The plant-parasitic nematodes which can be controlled in accordance with the invention include, for example, the root-parasitic soil-dwelling nematodes such as, for example, those of the genera Meloidogyne (root knot nematodes, such as Meloidogyne incognita, Meloidogyne hapla and Meloidogyne javanica), Heterodera and Globodera (cyst-forming nematodes, such as Globodera rostochiensis, Globodera pallida, Heterodera trifolii) and of the genera Radopholus, such as Radopholus similis, Pratylenchus such as Pratylenchus neglectus, Pratylenchus penetrans and Pratylenchus curvitatus;

Tylenchulus such as Tylenchulus semipenetrans, Tylenchorhynchus, such as Tylenchorhynchus dubius and Tylenchorhynchus claytoni, Rotylenchus such as Rotylenchus robustus, Heliocotylenchus such as Haliocotylenchus multicinctus, Belonoaimus such as Belonoaimus longicaudatus, Longidorus such as Longidorus elongatus, Trichodorus such as Trichodorus primitivus and Xiphinema such as Xiphinema index.

Other nematode genera which can be controlled using the compounds according to the invention are Ditylenchus (stem parasites, such as Ditylenchus dipsaci and Ditylenchus destructor), Aphelenchoides (foliar nematodes, such as Aphelenchoides ritzemabosi) and Anguina (seed nematodes, such as Anguina tritici).
In the field of veterinary medicine or livestock husbandry or in the maintenance of public health against arthropods which are parasitic internally or externally upon vertebrates, particularly warm-blooded vertebrates, for example domestic animals, e.g. cattle, sheep, goats, equines, swine, poultry, dogs or cats, for example Acarina, including ticks (e.g. Ixodes spp., Boophilus spp. e.g. Boophilus microplus, Rhipicephalus spp. e.g. Rhipicephalus appendiculatus Ornithodorus spp. (e.g. Ornithodorus moubata) and mites (e.g. Damalinia spp.); fleas; Diptera (e.g. Aedes spp., Anopheles spp., Musca spp., Hypoderma spp.); Hemiptera.; Dictyoptera (e.g. Periplaneta spp., Blatella spp.); Hymenoptera; for example against infections of the gastro-intestinal tract caused by parasitic nematode worms, for example members of the family Trichostrongylidae.
From the class of the helminths, for example, Haemonchus, Trichostrongulus, Ostertagia, Cooperia, Chabertia, Strongyloides, Oesophagostomum, Hyostrongulus, Ancylostoma, Ascaris and Heterakis and also Fasciola.

From the class of the Gastropoda, for example, Deroceras spp., Arion spp., Lymnaea spp., Galba spp., Succinea spp., Biomphalaria spp., Bulinus spp., Oncomelania spp.
From the class of the Bivalva, for example, Dreissena spp.

In practical use for the control of arthropods, especially insects or acarids, or nematode pests of plants, a method, for example, comprises applying to the plants or to the medium in which they grow an effective amount of a compound of the invention. For such a method, the compound of the invention is generally applied to the locus in which the arthropod or nematode infestation is to be controlled at an effective rate in the range of about 2g to about 1kg of the active compound per hectare of locus treated. Under ideal conditions, depending on the pest to be controlled, a lower rate may offer adequate protection. On the other hand, adverse weather conditions, resistance of the pest or other factors may require that the active ingredient be used at higher rates. The optimum rate depends usually upon a number of factors, for example, the type of pest being controlled, the type or the growth stage of the infested plant, the row spacing or also the method of application. Preferably an effective rate range of the active compound is from about 10g/ha to about 400g/ha, more preferably from about 50g/ha to about 200 g/ha.

When a pest is soil-borne, the active compound generally in a formulated composition, is distributed evenly over the area to be treated (ie, for example broadcast or band treatment) in any convenient manner and is applied at rates from about 10g/ha to about 400g ai/ha, preferably from about 50g/ha to about 200 g ai/ha. When applied as a root dip to seedlings or drip irrigation to plants the liquid solution or suspension contains from about 0.075 to about 1000 mg ai/l, preferably from about 25 to about 200 mg ai/l. Application may be made, if desired, to the field or crop-growing area generally or in close proximity to the seed or plant to be protected from attack. The compound of the invention can be washed into the soil by spraying with water over the area or can be left to the natural action of rainfall. During or after application, the formulated compound can, if desired, be distributed mechanically in the soil, for example by ploughing, disking, or use of drag chains. Application can be prior to planting, at planting, after planting but before sprouting has taken place, or after sprouting.

The compound of the invention and methods of control of pests therewith are of particular value in the protection of field, forage, plantation, glasshouse, orchard or vineyard crops, of ornamentals, or of plantation or forest trees, for example: cereals (such as wheat or rice), cotton, vegetables (such as peppers), field crops (such as

sugar beets, soybeans or oil seed rape), grassland or forage crops (such as maize or sorghum), orchards or groves (such as of stone or pit fruit or citrus), ornamental plants, flowers or vegetables or shrubs under glass or in gardens or parks, or forest trees (both deciduous and evergreen) in forests, plantations or nurseries.

They are also valuable in the protection of timber (standing, felled, converted, stored or structural) from attack, for example, by sawflies or beetles or termites.

They have applications in the protection of stored products such as grains, fruits, nuts, spices or tobacco, whether whole, milled or compounded into products, from moth, beetle, mite or grain weevil attack. Also protected are stored animal products such as skins, hair, wool or feathers in natural or converted form (e.g. as carpets or textiles) from moth or beetle attack as well as stored meat, fish or grains from beetle, mite or fly attack.

Additionally, the compound of the invention and methods of use thereof are of particular value in the control of arthropods or helminths which are injurious to, or spread or act as vectors of diseases domestic animals, for example those hereinbefore mentioned, and more especially in the control of ticks, mites, lice, fleas, midges, or biting, nuisance or myiasis flies. The compounds of the invention are particularly useful in controlling arthropods or helminths which are present inside domestic host animals or which feed in or on the skin or suck the blood of the animal, for which purpose they may be administered orally, parenterally, percutaneously or topically.

The compositions hereinafter described for application to growing crops or crop growing loci or as a seed dressing may, in general, alternatively be employed in the protection of stored products, household goods, property or areas of the general environment. Suitable means of applying the compounds of the invention include:

to growing crops as foliar sprays (for example as an in-furrow spray), dusts, granules, fogs or foams or also as suspensions of finely divided or encapsulated compositions as soil or root treatments by liquid drenches, dusts, granules, smokes or foams; to seeds of crops via application as seed dressings by liquid slurries or dusts;

to animals infested by or exposed to infestation by arthropods or helminths, by parenteral, oral or topical application of compositions in which the active ingredient

exhibits an immediate and/or prolonged action over a period of time against the arthropods or helminths, for example by incorporation in feed or suitable orally-ingestible pharmaceutical formulations, edible baits, salt licks, dietary supplements, pour-on formulations, sprays, baths, dips, showers, jets, dusts, greases, shampoos, creams, wax smears or livestock self-treatment systems;
to the environment in general or to specific locations where pests may lurk, including stored products, timber, household goods, or domestic or industrial premises, as sprays, fogs, dusts, smokes, wax-smears, lacquers, granules or baits, or in tricklefeeds to waterways, wells, reservoirs or other running or standing water.

The compounds of the formula (I) can also be employed for controlling harmful organisms in crops of known genetically engineered plants or genetically engineered plants yet to be developed. As a rule, the transgenic plants are distinguished by especially advantageous properties, for example by resistances to particular crop protection agents, resistances to plant diseases or pathogens of plant diseases, such as particular insects or microorganisms such as fungi, bacteria or viruses. Other particular properties concern, for example, the harvested material with regard to quantity, quality, storage properties, composition and specific constituents. Thus, transgenic plants are known where the starch content is increased, or the starch quality is altered, or where the harvested material has a different fatty acid composition.

The use in economically important transgenic crops of useful plants and ornamentals is preferred, for example of cereals such as wheat, barley, rye, oats, millet, rice, cassava and maize or else crops of sugar beet, cotton, soya, oilseed rape, potatoes, tomatoes, peas and other types of vegetables.

When used in transgenic crops, in particular those which have resistances to insects, effects are frequently observed, in addition to the effects against harmful organisms to be observed in other crops, which are specific for application in the transgenic crop in question, for example an altered or specifically widened spectrum of pests

which can be controlled, or altered application rates which may be employed for application.

The invention therefore also relates to the use of compounds of the formula (I) for controlling harmful organisms in transgenic crop plants.

According to a further feature of the present invention there is provided a pesticidal composition comprising one or more compounds of the invention as defined above, in association with, and preferably homogeneously dispersed in one or more compatible pesticidally acceptable diluents or carriers and/or surface active agents [i.e. diluents or carriers and/or surface active agents of the type generally accepted in the art as being suitable for use in pesticidal compositions and which are compatible with compounds of the invention].
In practice, the compounds of the invention most frequently form parts of compositions. These compositions can be employed to control arthropods, especially insects and acarids, or helminths such as plant nematodes. The compositions may be of any type known in the art suitable for application to the desired pest in any premises or indoor or outdoor area. These compositions contain at least one compound of the invention as the active ingredient in combination or association with one or more other compatible components which are for example, solid or liquid carriers or diluents, adjuvants, surface-active-agents, or the like appropriate for the intended use and which are agronomically or medicinally acceptable. These compositions, which may be prepared by any manner known in the art, likewise form a part of this invention.
The compounds of the invention, in their commercially available formulations and in the use forms prepared from these formulations may be present in mixtures with other active substances such as insecticides, attractants, sterilants, acaricides, nematicides, fungicides, growth regulatory substances or herbicides.

The pesticides include, for example, phosphoric esters, carbamates, carboxylic esters, formamidines, tin compounds and materials produced by microorganisms.

Preferred components in mixtures are:

1. from the group of the phosphorus compounds
acephate, azamethiphos, azinphos-ethyl, azinphos-methyl, bromophos, bromophos-ethyl, cadusafos (F-67825), chlorethoxyphos, chlorfenvinphos, chlormephos, chlorpyrifos, chlorpyrifos-methyl, demeton, demeton-S-methyl, demeton-S-methyl sulfone, dialifos, diazinon, dichlorvos, dicrotophos, dimethoate, disulfoton, EPN, ethion, ethoprophos, etrimfos, famphur, fenamiphos, fenitriothion, fensulfothion, fenthion, flupyrazofos, fonofos, formothion, fosthiazate, heptenophos, isazophos, isothioate, isoxathion, malathion, methacrifos, methamidophos, methidathion, salithion, mevinphos, monocrotophos, naled, omethoate, oxydemeton-methyl, parathion, parathion-methyl, phenthoate, phorate, phosalone, phosfolan, phosphocarb (BAS-301), phosmet, phosphamidon, phoxim, pirimiphos, pirimiphos-ethyl, pirimiphos-methyl, profenofos, propaphos, proetamphos, prothiofos, pyraclofos, pyridapenthion, quinalphos, sulprofos, temephos, terbufos, tebupirimfos, tetrachlorvinphos, thiometon, triazophos, trichlorphon, vamidothion;

2. from the group of the carbamates
alanycarb (OK-135), aldicarb, 2-sec-butylphenyl methylcarbamate (BPMC), carbaryl, carbofuran, carbosulfan, cloethocarb, benfuracarb, ethiofencarb, furathiocarb, HCN-801, isoprocarb, methomyl, 5-methyl-m-cumenylbutyryl (methyl)carbamate, oxamyl, pirimicarb, propoxur, thiodicarb, thiofanox, 1-methylthio(ethylideneamino)-N-methyl-N-(morpholinothio)carbamate (UC 51717), triazamate;

3. from the group of the carboxylic esters
acrinathrin, allethrin, alphametrin, 5-benzyl-3-furylmethyl (E)- (1R)-cis-2,2-dimethyl-3-(2-oxothiolan-3-ylidenemethyl)cyclopropanecarboxylate, beta-cyfluthrin, alpha-cypermethrin, beta-cypermethrin, bioallethrin, bioallethrin ((S)-cyclopentylisomer), bioresmethrin, bifenthrin, (RS)-1-cyano-1-(6-phenoxy-2-pyridyl)methyl (1RS)-trans-3-(4-tert-butylphenyl)-2,2-dimethylcyclopropanecarboxylate (NCI 85193), cycloprothrin, cyfluthrin, cyhalothrin, cythithrin, cypermethrin, cyphenothrin, deltamethrin, empenthrin, esfenvalerate, fenfluthrin, fenpropathrin, fenvalerate, flucythrinate,

flumethrin, fluvalinate (D isomer), imiprothrin (S-41311), lambda-cyhalothrin, permethrin, phenothrin (® isomer), prallethrin, pyrethrins (natural products), resmethrin, tefluthrin, tetramethrin, theta-cypermethrin, tralomethrin, transfluthrin, zeta-cypermethrin (F-56701);

4. from the group of the amidines
amitraz, chlordimeform;

5. from the group of the tin compounds
cyhexatin, fenbutatin oxide;

6. others
abamectin, ABG-9008, acetamiprid, acequinocyl, Anagrapha falcitera, AKD-1022, AKD-3059, ANS-118, azadirachtin, Bacillus thuringiensis, Beauveria bassianea, bensultap, bifenazate, binapacryl, BJL-932, bromopropylate, BTG-504, BTG-505, buprofezin, camphechlor, cartap, chlorobenzilate, chlorfenapyr, chlorfluazuron, 2-(4-chlorophenyl)-4,5-diphenylthiophene (UBI-T 930), chlorfentezine, chlorproxyfen, chromafenozide, clothianidine, 2-naphthylmethyl cyclopropanecarboxylate (Ro12-0470), cyromazin, diacloden (thiamethoxam), diafenthiuron, DBI-3204, ethyl 2-chloro-N-(3,5-dichloro-4-(1,1,2,3,3,3-hexafluoro-1-propyloxy)phenyl)carbamoyl)-2-carboximidate, DDT, dicofol, diflubenzuron, N-(2,3-dihydro-3-methyl-1,3-thiazol-2-ylidene)-2,4-xylidine, dihydroxymethyldihydroxypyrrolidine, dinobuton, dinocap, diofenolan, emamectin benzoate, endosulfan, ethiprole (sulfethiprole), ethofenprox, etoxazole, fenazaquin, fenoxycarb, fipronil, fluazuron, flumite (flufenzine, SZI-121), 2-fluoro-5-(4-(4-ethoxyphenyl)-4-methyl-1-pentyl)diphenyl ether (MTI 800), granulosis and nuclear polyhedrosis viruses, fenpyroximate, fenthiocarb, fluacrypyrim, flubenzimine, flubrocythrinate, flucycloxuron, flufenoxuron, flufenzine, flufenprox, fluproxyfen, gamma-HCH, halfenozide, halofenprox, hexaflumuron (DE_473), hexythiazox, HOI-9004, hydramethylnon (AC 217300), IKI-220, indoxacarb, ivermectin, L-14165, imidacloprid, indoxacarb (DPX-MP062), kanemite (AKD-2023), lufenuron, M-020, M-020, methoxyfenozide, milbemectin, NC-196, neemgard, nidinoterfuran, nitenpyram, 2-nitromethyl-4,5-dihydro-6H-thiazine (DS

52618), 2-nitromethyl-3,4-dihydrothiazole (SD 35651), 2-nitromethylene-1,2-thiazinan-3-ylcarbamaldehyde (WL 108477), novaluron, pirydaryl, propargite, protrifenbute, pymethrozine, pyridaben, pyrimidifen, pyriproxyfen, NC-196, NC-1111, NNI-9768, novaluron (MCW-275), OK-9701, OK-9601, OK-9602, OK-9802, R-195, RH-0345, RH-2485, RYI-210, S-1283, S-1833, SI-8601, silafluofen, silomadine (CG-177), spinosad, spirodiclofen, SU-9118, tebufenozide, tebufenpyrad, teflubenzuron, tetradifon, tetrasul, thiacloprid, thiocyclam, thiamethoxam, tolfenpyrad, triazamate, triethoxyspinosyn A, triflumuron, verbutin, vertalec (mykotal), YI-5301.

The abovementioned components for combinations are known active substances, many of which are described in Ch.R Worthing, S.B. Walker, The Pesticide Manual, 12th Edition, British Crop Protection Council, Farnham 2000.

The effective use doses of the compounds employed in the invention can vary within wide limits, particularly depending on the nature of the pest to be eliminated or degree of infestation, for example, of crops with these pests. In general, the compositions according to the invention usually contain about 0.05 to about 95% (by weight) of one or more active ingredients according to the invention, about 1 to about 95% of one or more solid or liquid carriers and, optionally, about 0.1 to about 50% of one or more other compatible components, such as surface-active agents or the like. In the present account, the term "carrier" denotes an organic or inorganic ingredient, natural or synthetic, with which the active ingredient is combined to facilitate its application, for example, to the plant, to seeds or to the soil. This carrier is therefore generally inert and it must be acceptable (for example, agronomically acceptable, particularly to the treated plant).

The carrier may be a solid, for example, clays, natural or synthetic silicates, silica, resins, waxes, solid fertilizers (for example ammonium salts), ground natural minerals, such as kaolins, clays, talc, chalk, quartz, attapulgite, montmorillonite, bentonite or diatomaceous earth, or ground synthetic minerals, such as silica, alumina, or silicates especially aluminium or magnesium silicates. As solid carriers for granules the following are suitable: crushed or fractionated natural rocks such as calcite, marble, pumice, sepiolite and dolomite; synthetic granules of inorganic or

organic meals; granules of organic material such as sawdust, coconut shells, corn cobs, corn husks or tobacco stalks; kieselguhr, tricalcium phosphate, powdered cork, or absorbent carbon black; water soluble polymers, resins, waxes; or solid fertilizers. Such solid compositions may, if desired, contain one or more compatible wetting, dispersing, emulsifying or colouring agents which, when solid, may also serve as a diluent.

The carrier may also be liquid, for example: water; alcohols, particularly butanol or glycol, as well as their ethers or esters, particularly methylglycol acetate; ketones, particularly acetone, cyclohexanone, methylethyl ketone, methylisobutylketone, or isophorone; petroleum fractions such as paraffinic or aromatic hydrocarbons, particularly xylenes or alkyl naphthalenes; mineral or vegetable oils; aliphatic chlorinated hydrocarbons, particularly trichloroethane or methylene chloride; aromatic chlorinated hydrocarbons, particularly chlorobenzenes; water-soluble or strongly polar solvents such as dimethylformamide, dimethyl sulphoxide, or N-methylpyrrolidone; liquefied gases; or the like or a mixture thereof.

The surface-active agent may be an emulsifying agent, dispersing agent or wetting agent of the ionic or non-ionic type or a mixture of such surface-active agents. Amongst these are e.g., salts of polyacrylic acids, salts of lignosulphonic acids, salts of phenolsulphonic or naphthalenesulphonic acids, polycondensates of ethylene oxide with fatty alcohols or fatty acids or fatty esters or fatty amines, substituted phenols (particularly alkylphenols or arylphenols), salts of sulphosuccinic acid esters, taurine derivatives (particularly alkyltaurates), phosphoric esters of alcohols or of polycondensates of ethylene oxide with phenols, esters of fatty acids with polyols, or sulphate, sulphonate or phosphate functional derivatives of the above compounds.

The presence of at least one surface-active agent is generally essential when the active ingredient and/or the inert carrier are only slightly water soluble or are not water soluble and the carrier agent of the composition for application is water.

Compositions of the invention may further contain other additives such as adhesives or colorants. Adhesives such as carboxymethylcellulose or natural or synthetic polymers in the form of powders, granules or lattices, such as arabic gum, polyvinyl alcohol or polyvinyl acetate, natural phospholipids, such as cephalins or lecithins, or synthetic phospholipids can be used in the formulations. It is possible to use

colorants such as inorganic pigments, for example: iron oxides, titanium oxides or Prussian Blue; organic dyestuffs, such as alizarin dyestuffs, azo dyestuffs or metal phthalocyanine dyestuffs; or trace nutrients such as salts of iron, manganese, boron, copper, cobalt, molybdenum or zinc.

For their agricultural application, the compounds of the invention are therefore generally in the form of compositions, which are in various solid or liquid forms. Solid forms of compositions which can be used are dusting powders (with a content of the compound of the invention, ranging up to 80%), wettable powders or granules (including water dispersible granules), particularly those obtained by extrusion, compacting, impregnation of a granular carrier, or granulation starting from a powder (the content of the compound of the invention, in these wettable powders or granules being between about 0.5 and about 80%). Solid homogenous or heterogenous compositions containing one or more compounds of the invention, for example granules, pellets, briquettes or capsules, may be used to treat standing or running water over a period of time. A similar effect may be achieved using trickle or intermittent feeds of water dispersible concentrates as described herein.

Liquid compositions, for example, include aqueous or non-aqueous solutions or suspensions (such as emulsifiable concentrates, emulsions, flowables, dispersions, or solutions) or aerosols. Liquid compositions also include, in particular, emulsifiable concentrates, dispersions, emulsions, flowables, aerosols, wettable powders (or powder for spraying), dry flowables or pastes as forms of compositions which are liquid or intended to form liquid compositions when applied, for example as aqueous sprays (including low and ultra-low volume) or as fogs or aerosols.

Liquid compositions, for example, in the form of emulsifiable or soluble concentrates most frequently comprise about 5 to about 80% by weight of the active ingredient, while the emulsions or solutions which are ready for application contain, in their case, about 0.01 to about 20% of the active ingredient. Besides the solvent, the emulsifiable or soluble concentrates may contain, when required, about 2 to about 50% of suitable additives, such as stabilizers, surface-active agents, penetrating agents, corrosion inhibitors, colorants or adhesives. Emulsions of any required concentration, which are particularly suitable for application, for example, to plants, may be obtained from these concentrates by dilution with water. These

compositions are included within the scope of the compositions which may be employed in the present invention. The emulsions may be in the form of water-in-oil or oil-in-water type and they may have a thick consistency.

The liquid compositions of this invention may, in addition to normal agricultural use applications be used for example to treat substrates or sites infested or liable to infestation by arthropods (or other pests controlled by compounds of this invention) including premises, outdoor or indoor storage or processing areas, containers or equipment or standing or running water.

All these aqueous dispersions or emulsions or spraying mixtures can be applied, for example, to crops by any suitable means, chiefly by spraying, at rates which are generally of the order of about 100 to about 1,200 liters of spraying mixture per hectare, but may be higher or lower (eg. low or ultra-low volume) depending upon the need or application technique. The compound or compositions according to the invention are conveniently applied to vegetation and in particular to roots or leaves having pests to be eliminated. Another method of application of the compounds or compositions according to the invention is by chemigation, that is to say, the addition of a formulation containing the active ingredient to irrigation water. This irrigation may be sprinkler irrigation for foliar pesticides or it can be ground irrigation or underground irrigation for soil or for systemic pesticides.

The concentrated suspensions, which can be applied by spraying, are prepared so as to produce a stable fluid product which does not settle (fine grinding) and usually contain from about 10 to about 75% by weight of active ingredient, from about 0.5 to about 30% of surface-active agents, from about 0.1 to about 10% of thixotropic agents, from about 0 to about 30% of suitable additives, such as anti-foaming agents, corrosion inhibitors, stabilizers, penetrating agents, adhesives and, as the carrier, water or an organic liquid in which the active ingredient is poorly soluble or insoluble Some organic solids or inorganic salts may be dissolved in the carrier to help prevent settling or as antifreezes for water.

The wettable powers (or powder for spraying) are usually prepared so that they contain from about 10 to about 80% by weight of active ingredient, from about 20 to about 90% of a solid carrier, from about 0 to about 5% of a wetting agent, from about 3 to about 10% of a dispersing agent and, when necessary, from about 0 to about

80% of one or more stabilizers and/or other additives, such as penetrating agents, adhesives, anti-caking agents, colorants, or the like. To obtain these wettable powders, the active ingredient is thoroughly mixed in a suitable blender with additional substances which may be impregnated on the porous filler and is ground using a mill or other suitable grinder. This produces wettable powders, the wettability and the suspendability of which are advantageous. They may be suspended in water to give any desired concentration and this suspension can be employed very advantageously in particular for application to plant foliage.

The "water dispersible granules (WG)" (granules which are readily dispersible in water) have compositions which are substantially close to that of the wettable powders. They may be prepared by granulation of formulations described for the wettable powders, either by a wet route (contacting finely divided active ingredient with the inert filler and a little water, e.g. 1 to 20% by weight, or with an aqueous solution of a dispersing agent or binder, followed by drying and screening), or by a dry route (compacting followed by grinding and screening).

The rates and concentrations of the formulated compositions may vary according to the method of application or the nature of the compositions or use thereof. Generally speaking, the compositions for application to control arthropod or helminth pests usually contain from about 0.00001% to about 95%, more particularly from about 0.0005% to about 50% by weight of one or more compounds of the invention, or of total active ingredients (that is to say the compounds of the invention, together with other substances toxic to arthropods or helminths, synergists, trace elements or stabilizers). The actual compositions employed and their rate of application will be selected to achieve the desired effect(s) by the farmer, livestock producer, medical or veterinary practitioner, pest control operator or other person skilled in the art.

Solid or liquid compositions for application topically to animals, timber, stored products or household goods usually contain from about 0.00005% to about 90%, more particularly from about 0.001% to about 10%, by weight of one or more compounds of the invention. For administration to animals orally or parenterally, including percutaneously solid or liquid compositions, these normally contain from about 0.1% to about 90% by weight of one or more compounds of the invention.

Medicated feedstuffs normally contain from about 0.001% to about 3% by weight of

one or more compounds of the invention. Concentrates or supplements for mixing with feedstuffs normally contain from about 5% to about 90%, preferably from about 5% to about 50%, by weight of one or more compounds of the invention. Mineral salt licks normally contain from about 0.1% to about 10% by weight of one or more compounds of formula (I) or pesticidally acceptable salts thereof.

Dusts or liquid compositions for application to livestock, goods, premises or outdoor areas may contain from about 0.0001% to about 15%, more especially from about 0.005% to about 2.0%, by weight, of one or more compounds of the invention. Suitable concentrations in treated waters are between about 0.0001 ppm and about 20 ppm, more particularly about 0.001 ppm to about 5.0 ppm. of one or more compounds of the invention, and may be used therapeutically in fish farming with appropriate exposure times. Edible baits may contain from about 0.01% to about 5%, preferably from about 0.01% to about 1.0%, by weight, of one or more compounds of the invention.

When administered to vertebrates parenterally, orally or by percutaneous or other means, the dosage of compounds of the invention, will depend upon the species, age, or health of the vertebrate and upon the nature and degree of its actual or potential infestation by arthropod or helminth pests. A single dose of about 0.1 to about 100 mg, preferably about 2.0 to about 20.0 mg, per kg body weight of the animal or doses of about 0.01 to about 20.0 mg, preferably about 0.1 to about 5.0 mg, per kg body weight of the animal per day, for sustained medication, are generally suitable by oral or parenteral administration. By use of sustained release formulations or devices, the daily doses required over a period of months may be combined and administered to animals on a single occasion.

The following composition EXAMPLES 2A - 2M illustrate compositions for use against arthropods, especially insects or acarids, or helminths such as plant nematodes, which comprise, as active ingredient, compounds of the invention, such as those described in preparative examples. The compositions described in EXAMPLES 2A - 2M can each be diluted to give a sprayable compositon at concentrations suitable for use in the field. Generic chemical descriptions of the ingredients (for which all of the following percentages are in weight percent), used in the composition EXAMPLES 2A - 2M exemplified below, are as follows:

Trade Name	Chemical Description
Ethylan BCP	Nonylphenol ethylene oxide condensate
Soprophor BSU	Tristyrylphenol ethylene oxide condensate
Arylan CA	A 70% w/v solution of calcium dodecylbenzenesulfonate
Solvesso 150	Light C_{10} aromatic solvent
Arylan S	Sodium dodecylbenzenesulfonate
Darvan NO_2	Sodium lignosulphonate
Celite PF	Synthetic magnesium silicate carrier
Sopropon T36	Sodium salts of polycarboxylic acids
Rhodigel 23	Polysaccharide xanthan gum
Bentone 38	Organic derivative of magnesium montmorillonite
Aerosil	Microfine silicon dioxide

EXAMPLE 2A

A water soluble concentrate is prepared with the composition as follows:

Active ingredient	7%
Ethylan BCP	10%
N-methylpyrrolidone	83%

To a solution of Ethylan BCP dissolved in a portion of N-methylpyrrolidone is added the active ingredient with heating and stirring until dissolved. The resulting solution is made up to volume with the remainder of the solvent.

EXAMPLE 2B

An emulsifiable concentrate (EC) is prepared with the composition as follows:

Active ingredient	25%(max)
Soprophor BSU	10%
Arylan CA	5%
N-methylpyrrolidone	50%
Solvesso 150	10%

The first three components are dissolved in N-methylpyrrolidone and to this is then added the Solvesso 150 to give the final volume.

EXAMPLE 2C

A wettable powder (WP) is prepared with the composition as follows:

Active ingredient	40%
Arylan S	2%
Darvan NO_2	5%
Celite PF	53%

The ingredients are mixed and ground in a hammer-mill to a powder with a particle size of less than 50 microns.

EXAMPLE 2D

An aqueous-flowable formulation is prepared with the composition as follows:

Active ingredient	40.00%
Ethylan BCP	1.00%
Sopropon T360.	0.20%
Ethylene glycol	5.00%
Rhodigel 230.	0.15%
Water	53.65%

The ingredients are intimately mixed and are ground in a bead mill until a mean particle size of less than 3 microns is obtained.

EXAMPLE 2E

An emulsifiable suspension concentrate is prepared with the composition as follows:

Active ingredient	30.0%
Ethylan BCP	10.0%
Bentone 38	0.5%
Solvesso 150	59.5%

The ingredients are intimately mixed and ground in a beadmill until a mean particle size of less than 3 microns is obtained.

EXAMPLE 2F

A water dispersible granule is prepared with the composition as follows:

Active ingredient	30%
Darvan No 2	15%
Arylan S	8%
Celite PF	47%

The ingredients are mixed, micronized in a fluid-energy mill and then granulated in a rotating pelletizer by spraying with water (up to 10%). The resulting granules are dried in a fluid-bed drier to remove excess water.

EXAMPLE 2G

A dusting powder is prepared with the composition as follows:

Active ingredient	1 to 10%
Talc powder-superfine	99 to 90%

The ingredients are intimately mixed and further ground as necessary to achieve a fine powder. This powder may be applied to a locus of arthropod infestation, for example refuse dumps, stored products or household goods or animals infested by, or at risk of infestation by, arthropods to control the arthropods by oral ingestion. Suitable means for distributing the dusting powder to the locus of arthropod infestation include mechanical blowers, handshakers or livestock self treatment devices.

EXAMPLE 2H

An edible bait is prepared with the composition as follows:

Active ingredient	0.1 to 1.0%
Wheat flour	80%
Molasses	19.9 to 19%

The ingredients are intimately mixed and formed as required into a bait form. This edible bait may be distributed at a locus, for example domestic or industrial premises, e.g. kitchens, hospitals or stores, or outdoor areas, infested by arthropods, for example ants, locusts, cockroaches or flies, to control the arthropods by oral ingestion.

EXAMPLE 2I

A solution formulation is prepared with a composition as follows:

Active ingredient	15%
Dimethyl sulfoxide	85%

The active ingredient is dissolved in dimethyl sulfoxide with mixing and or heating as required. This solution may be applied percutaneously as a pour-on application to domestic animals infested by arthropods or, after sterilization by filtration through a polytetrafluoroethylene membrane (0.22 micrometer pore size), by parenteral injection, at a rate of application of from 1.2 to 12 ml of solution per 100 kg of animal body weight.

EXAMPLE 2J

A wettable powder is prepared with the composition as follows:

Active ingredient	50%
Ethylan BCP	5%
Aerosil	5%
Celite PF	40%

The Ethylan BCP is absorbed onto the Aerosil which is then mixed with the other ingredients and ground in a hammer-mill to give a wettable powder, which may be diluted with water to a concentration of from 0.001% to 2% by weight of the active compound and applied to a locus of infestation by arthropods, for example, dipterous larvae or plant nematodes, by spraying, or to domestic animals infested by, or at risk of infection by arthropods, by spraying or dipping, or by oral administration in drinking water, to control the arthropods.

EXAMPLE 2K

A slow release bolus composition is formed from granules containing the following components in varying percentages(similar to those described for the previous compositions) depending upon need:

Active ingredient
Density agent
Slow-release agent
Binder

The intimately mixed ingredients are formed into granules which are compressed into a bolus with a specific gravity of 2 or more. This can be administered orally to ruminant domestic animals for retention within the reticulo-rumen to give a continual slow release of active compound over an extended period of time to control infestation of the ruminant domestic animals by arthropods.

EXAMPLE 2L

A slow release composition in the form of granules, pellets, brickettes or the like can be prepared with compositions as follows:

Active ingredient 0.5 to 25%
Polyvinyl chloride 75 to 99.5%
Dioctyl phthalate (plasticizer)

The components are blended and then formed into suitable shapes by melt-extrusion or molding. These composition are useful, for example, for addition to standing water or for fabrication into collars or eartags for attachment to domestic animals to control pests by slow release.

EXAMPLE 2M

A water dispersible granule is prepared with the composition as follows:

Active ingredient	85%(max)
Polyvinylpyrrolidone	5%
Attapulgite clay	6%
Sodium lauryl sulfate	2%
Glycerine	2%

The ingredients are mixed as a 45% slurry with water and wet milled to a particle size of 4 microns, then spray-dried to remove water.

METHODS OF PESTICIDAL USE

The following representative test procedures, using compounds of the invention, were conducted to determine the parasiticidal and pesticidal activity of compounds of the invention.

METHOD A:

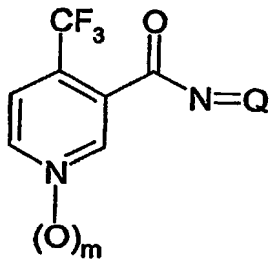
Germinated field bean seeds (Vicia faba) with seed roots were transferred into brown glass bottles filled with tap water and then populated with about 100 black bean aphids (Aphis fabae). Plants and aphids were then dipped into an aqueous solution of the formulated preparation to be examined for 5 seconds. After they had drained, plants and animals were stored in a climatized chamber (16 hours of light/day, 25°C, 40-60% relative atmospheric humidity). After 3 and 6 days of storage, the effect of the preparation on the aphids was determined. At a concentration of 300 ppm (based on the content of active compound), representative Compounds of the Invention caused a mortality of 90-100% among the aphids.

Example B

Germinated field bean seeds (Vicia faba) with seed roots were transferred into brown glass bottles filled with tap water. Four milliliters of an aqueous solution of the formulated preparation to be examined were pipetted into the brown glass bottle. The field bean was then heavily populated with about 100 black bean aphids (Aphis fabae). Plants and aphids were then stored in a climatized chamber (16 hours of light/day, 25°C, 40-60% relative atmospheric humidity). After 3 and 6 days of storage, the root-systemic effect of the preparation on the aphids was determined. At a concentration of 30 ppm (based on the content of active compound), representative Compounds of the Invention caused a mortality of 90-100% among the aphids, by root-systemic action.

CLAIMS

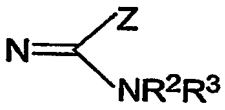
1. A compound of the formula (I):



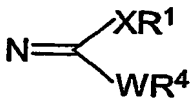
(I)

wherein:

N=Q is a formula (A) or (B):



(A)

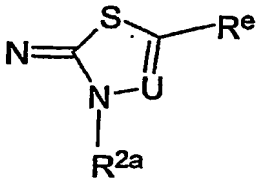


(B)

Z is YR^1 or NR^5R^6;

or when Z is YR^1, R^1 and R^3 may form together with the adjacent –Y-C-NR^2- atoms, a five or six membered saturated heterocyclic ring which optionally contains an additional N or O atom, and is unsubstituted or substituted by one or more R^7 groups or one of the ring carbon atoms may form a carbonyl or imino group, and which ring is optionally fused to a benzene ring optionally substituted by R^7;

or when Z is YR^1, R^1 and R^3 may form together with the adjacent -Y-C-NR^2- atoms, a group (A^2):



(A^2)

Y, X and W are each independently O or S;

or R^1 and R^4 may form together with the adjacent –X-C-W- group, a five or six membered unsaturated, partially saturated or saturated heterocyclic ring,

unsubstituted or substituted by one or more R^7 groups or one of the ring carbon atoms may form a carbonyl group;

R^1 is $(C_1$-$C_8)$alkyl, $(C_3$-$C_6)$alkenyl, $(C_3$-$C_6)$alkynyl or $(C_3$-$C_8)$cycloalkyl, which last four mentioned groups are unsubstituted or substituted by one or more R^8 groups; or is $(C_3$-$C_8)$cycloalkyl-$(C_1$-$C_6)$alkyl which cycloalkyl is unsubstituted or substituted by one or more R^8 groups; or is $-(CR^9R^{10})_pR^{11}$ or $-(CR^9R^{10})_p$heterocyclyl; or when Y is O is $(C_1$-$C_6)$alkylamino, $NH(C_3$-$C_8)$cycloalkyl or $NH(CH_2)_sR^{11}$;

R^{2a} is $(C_1$-$C_8)$alkyl, $(C_3$-$C_6)$alkenyl, $(C_3$-$C_6)$alkynyl, $(C_3$-$C_8)$cycloalkyl, $(C_1$-$C_6)$alkoxy, $(C_3$-$C_6)$alkenyloxy, $(C_3$-$C_6)$alkynyloxy, $(C_1$-$C_6)$alkylamino, di-$(C_1$-$C_6)$alkylamino, $NHCO(C_1$-$C_6)$alkyl, $NHSO_2(C_1$-$C_6)$alkyl, $CO(C_1$-$C_6)$alkyl or $SO_2(C_1$-$C_6)$alkyl which last thirteen mentioned groups are unsubstituted or substituted by one or more R^8 groups; or is $(C_3$-$C_8)$cycloalkyl-$(C_1$-$C_6)$alkyl which cycloalkyl is unsubstituted or substituted by one or more R^8 groups; or is $-(CR^9R^{10})_pR^{11}$, $-(CR^9R^{10})_p$heterocyclyl, OH, SO_2R^{11}, NH_2, $NHCOR^{11}$, NHR^{11}, $NH(C_3$-$C_8)$cycloalkyl, $NH(CH_2)_sR^{11}$, $O(CHR^{10})_rR^{11}$; $O(CH_2)_r$heterocyclyl or $N{=}C[(C_1$-$C_6)$alkyl$]_2$; or is $(C_3$-$C_6)$alkenyl substituted by R^{11};

R^2 and R^5 are each independently R^{2a} or H;

R^3 and R^6 are each independently H or R^1;

R^4 is $(C_1$-$C_6)$alkyl substituted by R^8; or is $(C_3$-$C_6)$alkenyl, $(C_3$-$C_6)$alkynyl or $(C_3$-$C_8)$cycloalkyl which last three mentioned groups are unsubstituted or substituted by one or more R^8 groups; or is $(C_3$-$C_8)$cycloalkyl-$(C_1$-$C_6)$alkyl unsubstituted or substituted by one or more R^8 groups; or is $-(CR^9R^{10})_pR^{11}$ or $-(CR^9R^{10})_p$heterocyclyl; or when W is O, R^4 is $(C_1$-$C_6)$alkylamino;

or R^2 and R^3 together with the adjacent N atom form a 3 to 8-membered unsaturated, partially saturated or saturated heterocyclic ring which optionally contains up to three additional N, O or S atoms and which ring is unsubstituted or substituted by one or more R^7 groups;

R^7 is R^8, R^4, $(C_1$-$C_6)$alkyl or CH_2OH;

R^8 is halogen, $(C_1$-$C_6)$alkoxy, $(C_1$-$C_6)$haloalkoxy, $S(O)_nR^{12}$, CN, $CO_2(C_1$-$C_6)$alkyl, CO_2H, NO_2, OH, amino, $(C_1$-$C_6)$alkylamino, di-$(C_1$-$C_6)$alkylamino, carbamoyl, $(C_1$-$C_6)$-alkylcarbamoyl, di-$(C_1$-$C_6)$-alkylcarbamoyl, $CH[O(C_1$-$C_6)$alkyl$]_2$, $(C_3$-$C_6)$alkenyloxy, $(C_3$-$C_6)$alkynyloxy or $O(CH_2)_rR^{11}$;

R^9 and R^{10} are each independently H, $(C_1$-$C_6)$alkyl or $(C_1$-$C_6)$haloalkyl;
R^{11} is aryl unsubstituted or substituted by one or more groups selected from $(C_1$-$C_6)$alkyl, $(C_1$-$C_6)$haloalkyl, $(C_2$-$C_6)$alkenyl, $(C_2$-$C_6)$alkynyl, $(C_3$-$C_8)$cycloalkyl, $-(CH_2)_uR^{13}$, heterocyclyl, halogen, $(C_1$-$C_6)$alkoxy, $(C_1$-$C_6)$haloalkoxy, $S(O)_nR^{12}$, CN, $CO_2(C_1$-$C_6)$alkyl, NO_2, amino, $(C_1$-$C_6)$alkylamino and di-$(C_1$-$C_6)$alkylamino;
R^{12} is $(C_1$-$C_6)$alkyl or $(C_1$-$C_6)$haloalkyl;
R^{13} is phenyl unsubstituted or substituted by one or more groups selected from halogen, $(C_1$-$C_6)$alkyl and $(C_1$-$C_6)$haloalkyl;
R^e is H, $(C_1$-$C_6)$alkyl, $(C_2$-$C_6)$alkenyl, $(C_2$-$C_6)$alkynyl, $(C_3$-$C_8)$cycloalkyl, $(C_3$-$C_8)$cycloalkyl-$(C_1$-$C_6)$alkyl, halogen, $(C_1$-$C_6)$alkoxy, $(C_1$-$C_6)$haloalkoxy, $S(O)_nR^{12}$, $(C_3$-$C_6)$alkenyloxy, $(C_3$-$C_6)$alkynyloxy, $-(CH_2)_pR^{11}$, heterocyclyl, CN, $CO_2(C_1$-$C_6)$alkyl, NO_2, amino, $(C_1$-$C_6)$alkylamino, di-$(C_1$-$C_6)$alkylamino or $O(CH_2)_rR^{11}$ wherein r is 0 or 1;
U is N or CH,
m, s and u are each independently 0 or 1;
n is 0, 1 or 2;
p is 0, 1, 2 or 3;
r is 0 or an integer from 1 to 6; and each heterocyclyl in the above mentioned radicals is independently a mono or bicyclic heterocyclic radical having 3 to 7 ring atoms in each ring and 1 to 4 hetero atoms selected from N, O and S;
with the proviso that in (A) when Z is NR^5R^6 then up to three of R^2, R^3, R^5 and R^6 are not simultaneously H;
or a pesticidally acceptable salt thereof.

2. A compound or a salt thereof as claimed in claim 1, wherein Z is YR^1;
or when Z is YR^1, R^1 and R^3 may form together with the adjacent -Y-C-NR^2- atoms, a five or six membered saturated heterocyclic ring which optionally contains an additional N or O atom, and is unsubstituted or substituted by one or more R^7 groups or one of the ring carbon atoms may form a carbonyl or imino group, and which ring is optionally fused to a benzene ring optionally substituted by R^7;
one of X and W is O and the other is S;

or R^1 and R^4 may form together with the adjacent -X-C-W- group, a five or six membered unsaturated, partially saturated or saturated heterocyclic ring, unsubstituted or substituted by one or more R^7 groups or one of the ring carbon atoms may form a carbonyl group.

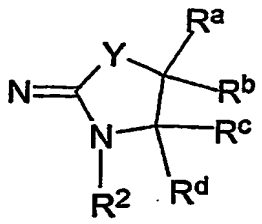
3. A compound or a salt thereof as claimed in claim 1 or 2, wherein R^1 is $(C_1$-$C_8)$alkyl or $(C_3$-$C_6)$alkenyl, which groups are unsubstituted or substituted by one or more groups selected from $(C_1$-$C_4)$alkoxy, $S(O)_nR^{12}$ and OH; or is $-(CR^9R^{10})_pR^{11}$.

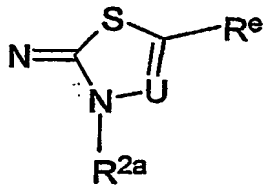
4. A compound or a salt thereof as claimed in any one of claims 1 to 3, wherein R^2 is H, $(C_3$-$C_6)$alkenyl, $(C_3$-$C_6)$alkynyl, $(C_1$-$C_6)$alkoxy, $(C_3$-$C_6)$alkenyloxy, $(C_3$-$C_6)$alkynyloxy, $-(CR^9R^{10})_pR^{11}$, $-(CR^9R^{10})_p$heterocyclyl, NHR^{11} or $O(CH_2)_rR^{11}$; or is $(C_1$-$C_8)$alkyl unsubstituted or substituted by a di-$(C_1$-$C_4)$alkylamino group.

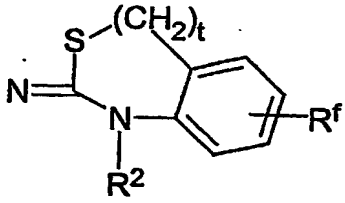
5. A compound or a salt thereof as claimed in any one of claims 1 to 4, wherein R^3 is $(C_1$-$C_8)$alkyl or $(C_3$-$C_6)$alkenyl, which groups are unsubstituted or substituted by an $(C_1$-$C_4)$alkoxy or OH group; or is H or $-(CR^9R^{10})_pR^{11}$.

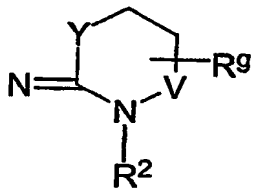
6. A compound or a salt thereof as claimed in any one of claims 1 to 5, wherein R^4 is $(C_1$-$C_8)$alkyl substituted by $(C_1$-$C_4)$alkoxy or OH; or is $(C_3$-$C_6)$alkenyl, $(C_3$-$C_6)$alkynyl or $(C_3$-$C_8)$cycloalkyl which last three mentioned groups are unsubstituted or substituted by an $(C_1$-$C_4)$alkoxy or OH group; or is $(C_3$-$C_8)$cycloalkyl-$(C_1$-$C_6)$alkyl which cycloalkyl is unsubstituted or substituted by an $(C_1$-$C_4)$alkoxy or OH group; or is $-(CR^9R^{10})_pR^{11}$ or $-(CR^9R^{10})_p$heterocyclyl.

7. A compound or a salt thereof as claimed in claim 1, wherein N=Q is a formula (A) in which Z is YR^1 and R^1 and R^3 form together with the adjacent $-Y-C-NR^2-$ atoms, a heterocyclic ring which is of formula (A^1), (A^2), (A^3) or (A^4):


(A1)


(A2)


(A3)


(A4)

wherein:

Y is O or S;

U is N or CH;

V is O or CH_2;

t is 0 or 1;

R^a, R^b, R^c and R^d are each independently selected from H, $(C_1$-$C_6)$alkyl, $(C_1$-$C_6)$haloalkyl, $(C_2$-$C_6)$alkenyl, $(C_2$-$C_6)$alkynyl, $(C_3$-$C_8)$cycloalkyl, halogen, $(C_1$-$C_6)$alkoxy, $(C_1$-$C_6)$haloalkoxy, $S(O)_nR^{12}$, $(C_2$-$C_6)$alkenyloxy, $(C_2$-$C_6)$alkynyloxy, R^{11}, heterocyclyl and $O(CH_2)_rR^{11}$ wherein r is 0 or 1;

or R^a and R^b, or R^c and R^d may form a carbonyl or imino group;

R^e and R^f are each independently selected from H, $(C_1$-$C_6)$alkyl, $(C_2$-$C_6)$alkenyl, $(C_2$-$C_6)$alkynyl, $(C_3$-$C_8)$cycloalkyl, $(C_3$-$C_8)$cycloalkyl-$(C_1$-$C_6)$alkyl, halogen, $(C_1$-$C_6)$alkoxy, $(C_1$-$C_6)$haloalkoxy, $S(O)_nR^{12}$, $(C_2$-$C_6)$alkenyloxy, $(C_2$-$C_6)$alkynyloxy, $-(CH_2)_pR^{11}$, heterocyclyl, CN, $CO_2(C_1$-$C_6)$alkyl, NO_2, amino, $(C_1$-$C_6)$alkylamino, di-$(C_1$-$C_6)$alkylamino and $O(CH_2)_rR^{11}$ wherein r is 0 or 1;

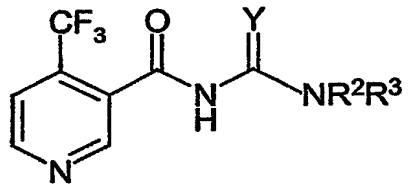
R^g is H, $(C_1$-$C_6)$alkyl, halogen, $(C_1$-$C_6)$alkoxy, $CO_2(C_1$-$C_6)$alkyl or R^{11};

R^{2a} is $(C_1$-$C_6)$alkyl unsubstituted or substituted by one or more groups selected from halogen, $(C_1$-$C_6)$alkoxy, $CH[O(C_1$-$C_6)alkyl]_2$, CN, $CO_2(C_1$-$C_6)$alkyl and CO_2H; or is $(C_3$-$C_6)$alkenyl unsubstituted or substituted by one or more halogen or phenyl groups; or is $(C_3$-$C_6)$alkynyl, $(C_3$-$C_8)$cycloalkyl, $(C_3$-$C_8)$cycloalkyl-$(C_1$-$C_6)$alkyl, $(C_1$-$C_6)$alkoxy, $(C_3$-$C_6)$alkenyloxy or $(C_3$-$C_6)$alkynyloxy; or is $-(CHR^{10})_pR^{11}$ wherein R^{10} is H or $(C_1$-$C_8)$alkyl, p is 0 or 1 and R^{11} is phenyl unsubstituted or substituted by one or more groups selected from halogen, $(C_1$-$C_6)$haloalkyl, $(C_1$-$C_6)$alkoxy, $(C_1$-$C_6)$haloalkoxy and phenoxy unsubstituted or substituted by one or more groups selected from halogen and $(C_1$-$C_6)$haloalkyl; or is $O(CHR^{10})_rR^{11}$ wherein R^{10} is H or

$(C_1\text{-}C_6)$alkyl, r is 1 and R^{11} is phenyl unsubstituted or substituted by one or more groups selected from $(C_1\text{-}C_6)$haloalkyl, $(C_1\text{-}C_6)$alkoxy and NO_2; and
R^2 is R^{2a} or H.

8. A process for the preparation of a compound of formula (I) or a salt thereof as defined in any one of claims 1 to 7, which process comprises:

a) where N=Q is a formula (A) in which Z is YR^1, m is zero, and R^1, R^2 and R^3 are as defined in claim 1, the reaction of a compound of formula (II):



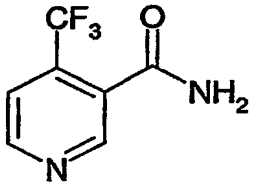
(II)

wherein Y, R^2 and R^3 are as defined in formula (I), with a compound of formula (III):

$$R^1L \qquad \text{(III)}$$

wherein R^1 is as defined in formula (I) and L is a leaving group in the presence of a base; or

b) where N=Q is a formula (A) in which Z is YR^1, m is zero, R^3 is H, and R^1 and R^2 are as defined in formula (I), the 1-pot reaction of a compound of formula (IV):



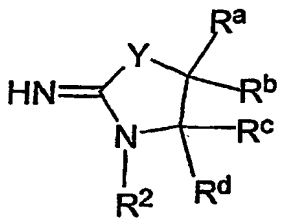
(IV)

with a strong base, and an isothiocyanate or isocyanate compound of formula (V):

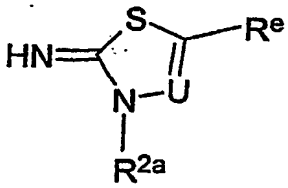
$$R^2\text{-}N{=}C{=}Y \qquad \text{(V)}$$

wherein R^2 is as defined in formula (I) to give the corresponding acylthiourea or acylurea intermediate of formula (II) above wherein R^3 is H, which is reacted with a compound of formula (III) as described in above process claim a);

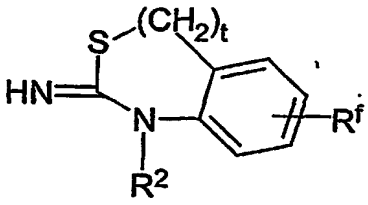
c) where N=Q is a formula (A) which is a heterocyclic ring of formula (A^1), (A^2), (A^3) or (A^4), wherein the various symbols are as defined in claim 7; the acylation of the corresponding compound of formula (A^{1a}), (A^{2a}), (A^{3a}) or (A^{4a}):



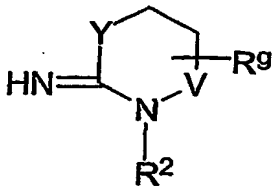
(A^{1a})



(A^{2a})

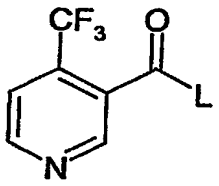


(A^{3a})



(A^{4a})

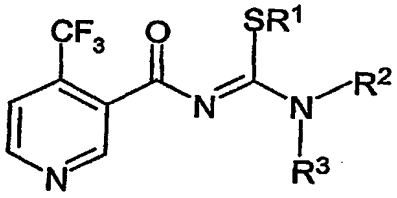
wherein the various symbols are as defined in claim 7, with a compound of formula (VI):



(VI)

wherein L is a leaving group;

d) where N=Q is a formula (A) in which Z is NR^5R^6, m is zero, and R^2, R^3, R^5 and R^6 are as defined in formula (I), the reaction of a compound of formula (VII):



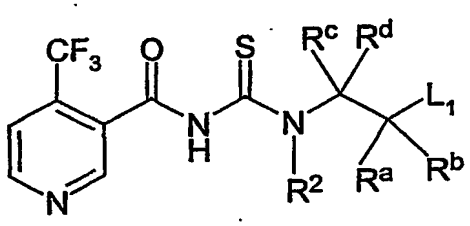
(VII)

wherein R^1, R^2 and R^3 are as defined in formula (I), with a compound of formula (VIII):

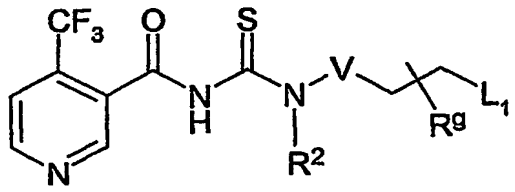
$$HNR^5R^6 \qquad \text{(VIII)}$$

wherein R^5 and R^6 are as defined in formula (I), in the presence of a base;

e) where N=Q is a formula (A) which is a heterocyclic ring of formula (A^1) or (A^4), m is zero, Y is S and the other symbols are as defined in claim 7, the cyclisation reaction of a compound of formula (IX) or (X) respectively:



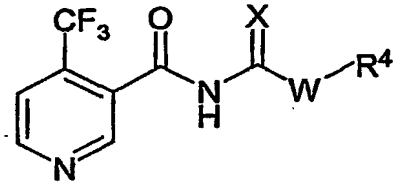
(IX)



(X)

wherein the various symbols are as defined in formula (I) and L_1 is a leaving group, in the presence of a base;

f) where m is zero and N=Q is a formula (B) in which $R^1$and R^4 are as defined in formula (I), the reaction of a compound of formula (XI):



(XI)

wherein X, W and R^4 are as defined in formula (I), with a compound of formula (III) as defined in the above process a), in the presence of a base;

g) where Q is as defined above, and m is 1 the oxidation of a corresponding compound in which m is 0; and

if desired, converting a resulting compound of formula (I) into a pesticidally acceptable salt thereof.

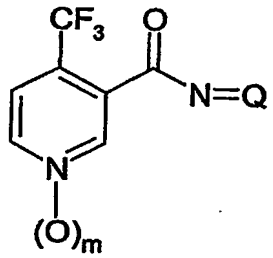
9. A pesticidal composition comprising a compound of formula (I) or a pesticidally acceptable salt thereof as defined in any one of claims 1 to 7, in association with a pesticidally acceptable diluent or carrier and/or surface active agent.

10. The use of compounds of the formula (I) or their salts as claimed in any of claims 1 to 7 as pesticides.

ABSTRACT

Pesticidal Method

The invention relates to a 3-pyridylcarboxamide derivative of formula (I):



(I)

wherein the various symbols are as defined in the description, compositions thereof, their use for the control of pests, and to processes for their preparation.